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Village, Caste and Education

B. K. Anitha

Over these years there has been a phenomenal growth in the field of education in India but test findings reveal a dismal picture of the quality of rural primary education. There has been inadequate understanding of the interrelationship between the school and the community. Besides, in a society ridden by caste hierarchy, it is imperative to understand how caste plays a significant role in determining the accessibility to education, the quality of transaction that takes place in the classroom and the response of the communities and teachers to education. The politics that operates in maintaining the social distance and the asymmetrical resource distribution amongst various caste groups also forms an integral part of the rural fabric where formal education still functions to reproduce the *status quo*.

This book looks at the educational system by contextualizing it in the social scape which in turn impacts on the educational transactions. It has also attempted to delineate the linkages between student, teacher and community in diverse social settings. The commonalities and contrasts reveal the dynamics of social reproduction that is perpetuated by the educational system. Anyone committed to the cause of education in India will find this book a rewarding study.

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e-mail : rawatbooks@pinkline.net

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Preface

Even at the turn of the millennium, India still houses the largest number of unlettered individuals. While there has been a phenomenal growth in educational system, the issues of equity and access to education have not been addressed head on, resulting in millions of out-of school children and inferior quality education for many school going children. While equity is providing equal opportunities for learning, resource distribution both human and material, has to ensure quality education for all children. Unfortunately, India's education policies have resulted in the creation of two streams in education, one for the elite which is of a high quality and the second, in stark contrast, of poor quality characterised by crammed, ill-equipped classrooms where there is hardly any teaching-learning process for a vast majority of children.

It is no wonder that a number of recent achievement test findings reveal a dismal picture on the quality of rural primary education. For example, even in an educationally forward state like Kerala, rural government primary schooling is inferior. An investigation into 'how and whys' of such a persisting manifestation is critical at this juncture to resurrect and rejuvenate primary education. Research on quality of rural primary education has largely contended with identifying school factors and in fact, hastened up holding children and parents responsible for the lack of achievement. Such a perspective went to the extent of stereotyping

communities/societies with culture of illiteracy without really understanding social fabric that moulds the educational processes. This implicit dualism has been a convenient tool for the ruling elite to perpetuate the *status quo* in terms of relations of production and distributions. A review of educational policies of independent India reveals that the attempts have always been to tinker the system with the lofty ideals without changing the gross duality, in terms of improving the quality of primary education.

Thus, a point of departure is necessary to review the educational process by contextualising it in the social scape within which the transaction takes place. In a society ridden by caste hierarchy, it is imperative to understand how caste plays a significant role in determining the accessibility to education, the quality of transaction that takes place in the classroom and the response of the communities and teachers to education. Indian rural society is still characterised by its class-caste nexus that forms the overarching determinant of access and control of any form of resources. Hence, the politics that operates in maintaining the social distance and the asymmetrical resource distribution amongst various caste groups also forms an integral part of the rural fabric. Education as a social institution and a resource for upward mobility, therefore, is political: the transactions and interactions between the teacher, student and the community representing most often different slices of the society.

In this study, I have attempted to delineate the linkages between teachers, students and the community in diverse social settings. The commonalities and differences would divulge the processes of social reproduction that the educational system perpetuates. By taking rural Tumkur, in Karnataka state as a case for study, this study attempts to bring a new perspective to the existing understanding of educational processes and the societal factors that determine its quality. The study has used a conflict perspective to focus on the skewed distribution of educational resources and specifically the role of the formal educational system in maintaining and perpetuating the existing social structure. Complimentary methods have been adopted to elicit information on aspects of educational facilities, teacher orientations, active instructional time, organisation of school activities, pupil-teacher interaction, educa-

tional transactions and school-community relationship.

The study comes out with the finding that it is the social scape that determines both the access to and the quality of education in rural primary schools. The demand created by the community served by the school determines the quality of education. Rural primary schools are characterised by poor educational facilities. In such a situation the teacher and her/his style of functioning are a significant factor that contributes to the school quality. The book also emphasises that the teacher or for that matter the school, does not function in isolation and is a part of the larger community within which the society is located.

Even a cursory glance at the various educational policies would reveal that so far we have not addressed the structural issues related to poor quality of primary education. The limited understanding and policy formulation and implementation are evident in programmes like Operation Blackboard, DPEP, etc. The findings of this study indicate the need for local-level planning and identifies specific needs and aspirations of communities in access to education and the educational process itself. Similarly, a greater appreciation of the cultural differences should form a part of the educational planning. Efforts have to be made in coordinating educational management, teacher training and curriculum to suit the first generation learners. It reiterates that the formal educational system needs to be re-activated to improve its quality making it more flexible in terms of calendar, location, language, pedagogy and curriculum and accessible to the less privileged.

This study is borne out of my doctoral work conducted at the Institute of Social and Economic Change, Bangalore during the period of 1988-93, under the guidance of Prof. C.S. Nagaraju. Being a Ph.D thesis, the study has benefited from the valuable suggestions of my supervisor. He initiated me to the field of sociology of education and has helped me to think positively in coordinating my varied responsibilities. An exhaustive revision with the updating of secondary information was undertaken at NIAS, Bangalore. Prof. M.N. Srinivas encouraged me right from the beginning of my work and his support has been invaluable and has helped to hold my confidence. The support extended by Prof. Roddam Narasimha, Director of NIAS and Dr. N. Shantha Mohan, the

head of the unit were crucial in the final stages of this work. My colleagues and friends Ms. Piush Antony and Dr. A.R. Vasavi, my most ardent critics who raised objections at every reading, moulded the book into a coherent whole. Their unflagging interest and belief in the value of this research stood me in good stead during the conclusive stage of my book. Thanks are due to Mr. Upendranadh for propelling the work on its course. My friends Ms. Anita Gurumurthy and Ms. Chandana. S. Wali have contributed in their own way in bringing out this book. I thank my father, who has been an inspiration to reach for the sky and my family for being my anchor through those fluctuating highs and lows. Finally, thanks to Ashok, my husband, who has given so much in many subtle ways to the production of this book.

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B.K. Anitha

Introduction

Formal education functions as a social system regulating and distributing power and authority in a given society¹. In this sense, education reinforces the existing social structure and thus, reproduces the *status quo*² in a society.

How does this manifest? At the macro level, this process of reproduction is manifested through the urban-rural differences in the quality of education process and outcomes. A similar dichotomy is found between primary and other levels of education, in terms of government support and funding, where higher education is preferred in relation to primary education. These, in fact, have resulted in the deprivation of education for millions of people from poor and marginal communities as their participation is often confined to the lower levels of the formal educational system. In other words, the participation of the underprivileged sections who accessed formal education for the first time was invariably at the lower levels and that too, has not been accomplished due to the inherent biases in the system. At the micro level, discerning the reproductive role of education necessarily entails an understanding of the concurrent operationalisation of the social structure and the educational system in a local-specific context.

In the context of Indian rural society, the process of social reproduction through the educational system assumes importance because of the fact that it is this very system which facilitates the

exclusion of a vast majority of the rural population from formal education. The fundamental questions in this regard are to understand the clientele (who get the education), the schooling process (what happens to the clientele) and the nature of absorption (position of clientele in the occupational structure of the society). These queries on inputs, processes and outputs subsume a whole range of issues that embrace problems of educational opportunity, selection and discrimination, management and transmission of knowledge and values, and about social placement, stratification and mobility. This book aims to address these issues using micro level data, generated at the community and school levels and contextualises the findings in the existing theoretical understanding on the linkages between school and social stratification.

Most of the studies in the area of primary education have examined the functioning of schools with an emphasis on inputs and outputs, drawing their sample from an urban population (Masavi, 1987; Aikara, 1981; Rao, 1991; Dhongade, 1991). These studies have explored inputs in terms of availability of infrastructural facilities, teachers, socio-economic background of students, etc., and outputs using student achievements. Restricting oneself to only inputs and/or outputs will not essentially give those dimensions of the reproductive role that the educational system plays. It has to be necessarily an examination of the education process within the school *vis-à-vis* the social environment. In other words, the school as an institution situated within the community and its interaction with the community will have to be explored to examine the role of education in maintaining the *status quo*. This forms the focus of this book.

Formal education system accomplishes social reproduction through the perpetuation and transmission of particular societal modes. It socialises children in collaboration with the family and community, preserves and transmits the accumulated knowledge and values, prepares individuals to perform adult roles in various fields (Parsons, 1959) and finally, sets the tone for the economic and political transition of society (Karabel and Halsey, 1977).

As a social institution, education works in close interaction with other social institutions to realise its functions³ (Collins, 1977; Bowles, 1977; Bowles and Gintis, 1977; Bourdieu, 1974).

This interaction with other institutions is mostly by drawing tangible resources in a demand driven manner. But the benefits expected out of education always occur with a time-lag. This delay in output and nature of intangible benefits along with its dependency for physical resources makes education a subordinate institution, especially to the production relations. This subordination is "a case in which one social institution has low autonomy for the internal determination of its operation because of its dependence on the other."⁴ This fundamental imbalance in the interaction between education and other social systems makes education highly vulnerable and necessarily responsive to the demands imposed by the institutions that support it. Therefore, any autonomy resorted to by the educational system to redefine its functioning in terms of its intake, processes and outputs⁵ are influenced by this unequal relationship. The identification of interest groups which control superordinate systems (mainly through production relations), presents additional significance for studying the response of education as an institution organised in the form of formal educational systems in modern societies.

Historically, different social systems held sway over education at various points of time in varying contexts. In the European context, religion provided impetus for the establishment of early schools and was dominated by Church which provided the key resources. In the early 19th century, due to industrialisation and major technological advances effecting urbanisation and large scale migration, more complex state systems emerged. The nature of subordination of the educational system, which was earlier 'mono-integrated' transformed into a 'poly-integrated' system (Archer, 1982).

Similar historical developments can be traced in other geographical contexts and the crux of such analyses will be to understand why education is characterised by particular inputs, processes and outputs at a given point of time and what influences it to change over time. Equally important is to understand the central tendencies and the outliers of the existing modes of interlinkages between education and social systems that exist in a micro context. The nuances of the inter-linkages of education with other social systems can be captured within the socio-cultural and

political contexts where such inter-linkages first originated (Archer, 1982). And, this underlie the main objective of the study. How does the process of education take place within the school *vide* its social environment of a rural setting is the critical part of our inquiry. An exhaustive treatment of issues related to school quality and inputs through micro level survey data and case studies of selected schools in the villages of Karnataka form the core information base to put forward the arguments and analysis.

The first step is to draw on the inferences from the experiences within the country and without. A historical overview of education in India and the insights it provides can bring out the dominant paradigms on the interlinkages between education and society. An overview of education in India and the insights of empirical studies elsewhere emphasising the dominant paradigms specific to educational system are provided in Chapter 2.

Chapter 3 of the book discusses various methodologies available to understand such processes and the need for a holistic method. This chapter also provides an overview of the study design, sampling process and methodology adopted for conducting case studies of schools. Next four chapters, viz., Chapters 4 to 7 analyse the various dimensions of educational process in the social context through the data gathered as part of the fieldwork of the study.

Chapter 4 deals with the educational facilities in rural Indian context where the general profile of Tumkur district, the field area with a focus on the educational aspects. This chapter also deals with the descriptive and differential analysis of the educational facilities available in rural schools located in villages of different caste composition. In addition, the educational outcomes that are related to the educational quality inputs are also compared across village types.

Chapter 5 consists of the descriptive categories of the quality of educational processes with illustrations. The distribution of these categories among the nine schools that served as case studies are also discussed.

Chapter 6 gives the individual profiles of the nine cases that include quality of school processes of the nine sample schools and the associated villages that serve as communities. The analysis of

the educational outcomes in relation to the quality of educational process categories are also discussed.

In Chapter 7, the comparison of educational processes across village types based on caste, occupation, level of education, land-ownership and income levels are discussed. In addition, an analysis of the educational outcomes in relation to village types based on caste is included. A summary of findings and conclusions are presented in the last chapter.

Contextualisation of Formal Education in India: Sociological Explanations

Studies undertaken in different social contexts to understand education not only demonstrate the subordinate position of education *vis-à-vis* other social institutions but also emphasises the nature of social reproduction it engages in (Carnoy, 1974; Bourdieu, 1974; Bowles and Gintis, 1977). It reproduces a social structure represented by social class, status groups and cultural conditions. These studies carried out in different societies⁶ brings out that it is the power structure which is being reproduced through formal education. To reiterate, the educational system performs the acculturating role, but this process is moulded in such a way that it perpetuates the existing power structure by conditioning its responses to suit the competing demands of dominant power groups.

In the Indian context, how is the social reproduction realised in the aforesaid manner and what are the forces and factors involved? To unravel this, it is imperative to have a befitting context that demonstrates the process with all the actors and intricacies. The practice has been to harp on the access to and outcomes of the educational system without paying much attention to the internal working of the schools as a critical factor in this process. The latter assumes significance in a context where the dominant groups operate their power in imposing their non-educational values and cultural ideals in schools. This is the intriguing question that this study tries to deal with.

This interlinkage of education with other social systems is best understood with reference to a national educational system. In other words, it is necessary to look back to the context, both educational and socio-cultural, within which such interlinkages first

originated (Archer, 1982). In outlining the contours of the developments to map out the complex poly-integration of education with competing superordinate social systems, there is a need to locate the status of the underprivileged in this continuum.

The Indian Constitution based on the principles of justice, liberty, fraternity and equality, through its directive principles, guaranteed universal compulsory education to all up to the age of fourteen within a period of ten years from the operationalisation of the Constitution. To facilitate the participation of the weaker sections of the society, reservation policy was also drawn. But, since universal compulsory primary education came under the directive principles of the Constitution, it was not mandatory for the elected governments to implement this through any legislation (Mukhopadhyaya, 1999).

The leadership at the national level which took over power from the British comprised western educated liberals, who envisaged rapid economic growth through industrialisation (Narullaha and Naik, 1971). As a result, the elected government placed high priority to redefine the role of education—towards production of more technical personnel to favour the developmental process conceived through the five year plans. This was in accordance with the demand of the economic system, which required skilled human power to take up modern occupations created by rapid industrialisation. This has resulted in lopsided growth of education and an inherent bias towards higher and technical education, at the cost of universalisation of elementary education.⁷

Education being one of the important factors in human capabilities, entering into modern occupational structure and thereby acquiring social mobility, assumes importance in relation to depressed social groups. But the preferential pattern of resource allocation in favour of university and technical education at the cost of primary education benefited those upper castes who were already a part of the formal system (Aich, 1987; Chitra, 1987; Jayaram, 1987). Similarly, formalisation of education has also meant developing uniformity, subsuming local diversities and cultural specificities. The irony, therefore, in the Indian educational system is that it aims for uniformity at the cost of local and regional knowledge systems by state sponsored curriculae. At the

same time, it promotes plural systems of education at all levels catering to different sections of the society.

To those underprivileged who aspired for formal schooling, this meant trade-off between their traditionally acquired skills that have very little relevance in the changing society and being part of the formal educational system. The formal educational system was the only route through which an individual could acquire skills to take up modern occupations created by rapid industrialisation. These skills were based on a knowledge system which was alien to the underprivileged sections which were traditionally not part of the formal educational system. Hence, they were left with little choice but to join the mainstream with the inherent disadvantages. Consequently, most of them remained out of the mainstream educational system due to non-relevance and lack of access.

The sequential pattern observed in constituting the various commissions for reforming the education system, have also reinforced the priority of the government towards higher education (Tilak, 1987; Upendhranadh, 1993). Hence, we see that the interests of polity, economy and stratification were diverse: the polity, based on the new democratic principles expected education to create an open, participative and egalitarian society; the economy and the dominant social structure preferred a selective process of educational expansion.

It can be argued here that the perceived skewness in the quality of education that operates between the rural and urban schools is essentially in response to the demands of the dominant groups. Most studies have re-examined the differences with a critical focus on infrastructure. The pursuit, therefore, has been mainly on exploring ways and means to bridge the gap between urban and rural school quality *vis-à-vis* infrastructure. The preoccupation with rural-urban difference has also led to the notion that rural schools present a homogenous reality. Therefore, the fact that rural India is characterised by a caste-class nexus and accounts for the intra-rural differences of schools have not been delved into sufficiently. The role of the social constellation of forces in influencing the relationship between the school and the community which it supposedly serves has been underplayed.

In effect, two popular propositions have been the overarching framework for most of the studies in the area of primary education (a) physical infrastructure or resources determine the quality of education; and (b) socio-economic background of students and the associated family socialisation and attitudinal issues determine the participation. And, both these have a bearing on the enrollment and retention of students (Chitnis, 1987; Prasad, 1991; Devi, 1991).

The first proposition has led to accentuation of the effect of infrastructure on the quality of education. The interventions made by the government so far has been on increasing infrastructure. This pattern of intervention is seen even in the case of the externally funded projects like the District Primary Education Programme (DPEP) supported by the World Bank. The second proposition conveniently shifts the responsibility of education to individual households. Thus, it is argued that poor socio-economic background and the associated family socialisation and attitudes are responsible for low enrollment and retention. In attitudinal terms, the reinforcement of a dominant perspective that if the perceived quality of education of the underprivileged is poor, it is because of their lack of interest and motivation. The lack of motivation is again linked to the vicious circle of poverty—culture of poverty breeding the culture of illiteracy and *vice-versa*, which is a lived experience for the underprivileged sections of society. But the excessive attention paid to the social background of students can be counter-productive to the democratisation of education. It, in fact, offers a rationalisation for educational exclusion in terms of access to quality education for the poor.

The result of this view has been the sustained emphasis on inputs and outputs with little or no emphasis on the process of education. The qualitative variations of schools have been completely neglected by educational sociologists. For example, studies in the past have tried to draw the profile of those who enter the school, some other studies have concentrated on those who come out of the schools (Dave *et al*, 1988:1265; Khader, 1992). But what happens to children within the school has received relatively less attention (Nambissan, 1996; Varghese and Govinda, 1993). Despite the fact that formal educational systems becomes a choice instrument for ensuring the acceptance and prolongation of the *status*

quo, the nature of its functioning is not explored fully (Friere, 1972).

Recent studies (Bhatty, 1998; Banerji, 1997) in the area of primary education point to the need to review this paradigm by questioning the very propositions of the direct relationship that infrastructure and socio-economic background of students have with the quality of education. This is not to underplay the importance of these factors on education, but to shift attention to other related factors that have a direct bearing on education. These studies spell out the need to draw attention to factors that operate within the institution of learning, viz., the school. Factors like teachers' attitude, quality of the teaching-learning process and teacher motivation also affect educational deprivation of children (Nam-bissan, 1996; Banerji, 1997). Myths like "parents are not interested in their children's education"; "child labour is the main obstacle"; "elementary education is free"; "schools are available" are increasingly being questioned and greater attention to other factors operating within the educational system responsible for children not accessing formal education are being investigated. (PROBE, 1999; Tilak, 1996; Bhatty, 1998).

In recent years, there are also studies pointing to a need to shift the role of primary schooling to a demand-driven phenomenon rather than supply-oriented in pursuit of universalisation of elementary education (Vasavi, 1998; PROBE, 1999). Hence, the need for strengthening school community interactions and thus, establishing accountability have gained greater attention. The importance of pluralities and cultural specificity of communities that need to be addressed and in the process, to look for unique solutions for problems of primary education within a local context are making in-roads into education debates regarding universalisation of primary education (Vasavi, 1994).

The significance of the school process cannot be understood with all its ramifications unless placed against the larger role of educational system in the reproduction of the social structure. Drawing a mental map of the rural school as an abstraction of the rural society with all its structural aberrations, caste-class nexus may be required to understand this interrelationship which is the focus of the present study.

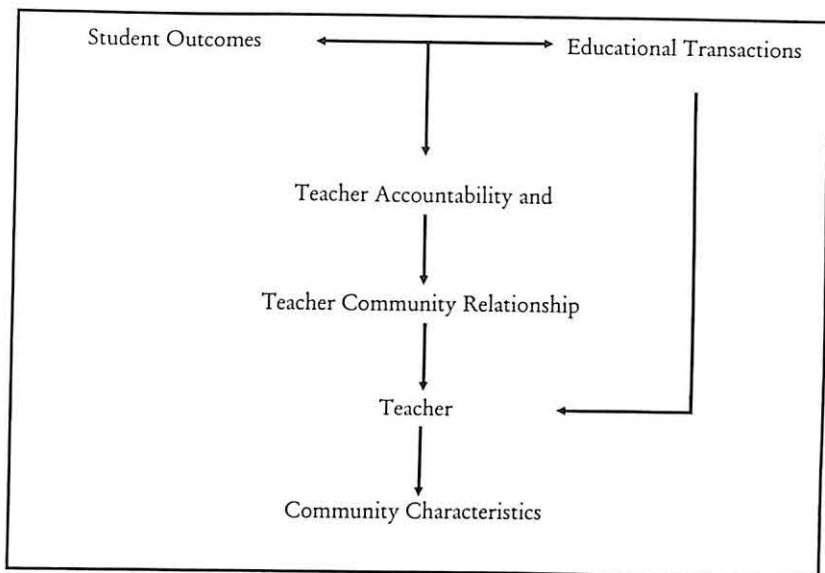
Most of the studies on education and society linkages are based on a functionalist⁸ framework and have examined individuals as unit of analysis without reference to community context. Empirically, the school represents the educational system, and the community that the school supposedly serves is the representation of the social structure. The poor facilities in rural schools in terms of infrastructure, teaching aids, etc., cannot be understood or evaluated independent of the community within which it is located. It is the school community interaction that can explain the role of the educational system in the reproduction of the social structure. Hence, it is essential to examine the interrelation of the community and school to generate propositions which explain the reproductive role of the school leading to the maintenance of the *status quo*.

In the urban context, because of the complexity of community arrangement with reference to schools, it may not be easy to study the behaviour of the school with its community. This is not the case in rural social contexts where most primary schools are run by the government and the community is defined by geographical boundaries. Moreover, caste still operates as the base for social and economic deprivations.⁹ These factors make the interaction of school and community less complex. Thus, the rural contexts provide a better scope to test the nexus between the social stratification and education. The nexus between rural social structure and the educational process is operationalised by associating school quality inputs with different community characteristics. The community characteristics of villages in terms of caste and related distinctions like landholding, levels of income and education and occupational pattern, etc., are the empirical manifestations of the rural social structure. The resources available for schooling, i.e., infrastructure, number of teachers, teaching aids, etc., and their utilisation are the empirical manifestation of the educational system.

Operational Model of Interaction of Community and School Quality

The following model is proposed as a framework for the qualitative study of cases of schools working in different types of villages.

*A Framework to Understand Linkages between
Education and Social Stratification*



This model assumes that all schools will have their respective communities from which they get their student population. In the present context, the village settlement in which the school is located is the community of that school. While the community supplies students, it also interacts with the schools in many ways. Such interactions between schools and community become crucial in determining the teacher accountability, the resources for teaching, regularity of the students, active instruction time, teacher-student interaction as well as the quality of teaching. It must be noted at this point that the rural schools, where the facilities are bare minimum, the only resource that they can rely on is the teacher. The above mentioned four factors revolve around the teacher and her/his style of functioning (Varghese and Govinda, 1993).

The school-community relationship is an important outcome of the teacher and her/his style of functioning. This relationship has a direct impact on teacher accountability. In rural primary schools, teacher accountability determines the active instruction time an important ingredient of quality education. Learning for

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most rural children is confined to the classrooms with little or no support from parents who are often illiterates. In such a situation, the functioning of the school is the response to the demands of the community it serves.

The teacher and her/his style of functioning also influence the educational transactions in terms of the teaching methods adopted, the nature of teaching-learning activities and the amount of time spent in active instruction. The educational transactions, in turn, determine the students' outcomes in the form of both school attendance and achievements. The competence of the teacher, the socio-economic background of students and the ability of students affect the educational outcomes. Taking all this into account, this study focuses on the variations among the schools' functioning in villages with different characteristics. Variation within the school is not considered.

Notes

1. The various functions of education have been exemplified by many studies. For, example see, Parsons, 1959; Bourdieu, 1973; Bowles, 1977.
2. *Status quo*, here, refers to the process that maintains and perpetuates the existing production relations in a given society such that it leads to the continued deprivation of certain sections of the society.
3. Sociology of Education is concerned with studying this nature of interaction of the educational institutions to one or more superordinate institutions. This has arisen out of the multiple institutions trying to influence education in different ways. The identification of interest groups which control superordinate systems adds additional significance for studying the response of education as an institution organised in the form of formal educational systems in modern societies.
4. Subordination is defined as, "a case in which one social institution has low autonomy for the internal determination of its operation because of its dependence on the other" (Archer, 1982: 62).

5. Here intake refers to the students who enter the system, process to what goes on within the institution and output refers to students who come out of the system.
6. Neo-Marxists emphasise that education must be examined within the framework of class structure. The reproductive role of education must be studied against the framework linking the three important institutions, i.e., family, education and work. Bowles (1977); Collins (1971 and 1974) emphasise that schools engage in teaching specific status cultures both within and outside the classrooms. Bourdieu (1974) points to the role of formal education in reproducing cultural conditions from generation to generation.
7. Who were traditionally not part of the formal system, and hence, by rule, could access formal education only at the lower level, to begin with.
8. Functionalists provide a description of the relation existing between the educational system and other social institutions. The conflict theorists move one step ahead and provide explanation for this relationship (Karabel, 1972; Carnoy, 1974). The functionalist theory was criticised for underplaying the role of conflict and ideology (Collins, 1971; Bowles and Gintis, 1977)
9. Most of the village studies have indicated that social stratification in rural India is primarily based on caste. During post-independence period, the political context of democracy and adult franchise gave rise to the emergence of dominant castes (Srinivas, 1987; Dubey, 1958; Marriot, 1955).

Education in India: Prospects and Problems

This chapter discusses the historical development of education in India and the empirical studies in the area of school quality. The review of studies in India brings out the biases of studies in relation to higher education. It also establishes that most studies in primary education have been based on input-output analysis with very little attention to the educational processes. A brief review of studies outside the country is also discussed to place school quality against a larger debate of equality of educational opportunity.

Historical Development

In the Indian context, the subordination of the educational system to other social systems, viz., economic and political, can be discussed in two broad phases. The first phase refers to the period prior to the British rule and the second to the period of the British rule. India being a stratified society before the British, education was the monopoly of the groups of the highest order in the caste hierarchy system and also had the religious sanction. Later, although the state controlled education, caste was allowed to operate in a *de facto* manner. This is noted from the fact that formal education during greater part of the 19th and early 20th centuries was dominated by the upper castes (Seal, 1968). This pattern was in perpetuation of the earlier system of Gurukulas.

The earlier system of education has a long history. There were two tiers to the system of education: first, the upper level restricted itself to the study of courses under the control of religious institutions, called as *Pathashalas* for the Hindus and *Madarssas* for the Muslims; the second, consisted of elementary schools, restricted itself to the teaching of the three Rs, i.e., reading, writing and arithmetic. The first kind of schools were characterised by their exclusiveness. They were conducted by learned men who served more for religious than for monetary gains. The clientele was, to a great extent, restricted to the Brahmins and twice-born castes among the Hindus, and rich or priestly classes among the Muslims. Education, at higher levels, was meant for preparing the younger generation for statecraft and priestly roles. These institutions received patronage from rulers, chieftains or religious leaders. Women belonging to these sections of the society had access only to the lower levels of education leading to literacy. However, the family took over the responsibility of training women for the predominant roles of housewife and mother (Narullaha and Naik, 1971).

The indigenous elementary schools geared to spread education were open to other upper castes of the society. These schools catered to the bare requirements of the warriors and traders. No religious importance was attached to such institutions and consequently, only local patronage was available. The children entering these schools were drawn mostly from the upper classes though it did include a small percentage of girls and children of other communities. However, the educational system was characterised by a complete absence of the untouchable castes. Training to take up the adult roles for these castes was provided by the family. Education mainly was to prepare the individuals to fit into the ascribed roles to be performed by them in later life. In such an indigenous system of education, some of the important elements of nation building processes, such as equality, rationality, and secularism could not receive any important position (Singh, 1991; Desai, 1969; Gore, Desai and Chitnis (ed.), 1970).

The arrival of the British gave rise to conflicting viewpoints regarding the kind of educational policy India should have.

- (1) At one extreme were the orientalist represented by Duncan, Warren Hastings, Minto and others who emphasised the worthwhileness of the indigenous system and deemed it befitting to receive encouragement.
- (2) At the other extreme were the anglicists led by Charles Grant and Macaulay who advocated the substitution of the indigenous system by the British system of education.
- (3) The third viewpoint, which had the synthesis of the first two, was propounded by Raja Ram Mohan Roy and Colonel Jervis. Accordingly, it was declared that "If the people are to have a literature it must be their own, the stuff may be in a great degree European, but it must be freely woven with home-spun materials and the fashion must be Asiatic" (Jervis, as quoted in, Narullaha and Naik, 1971:75).

Social historians have interpreted these developments from different theoretical perspectives. Functionalist perspectives view the development of state regulated educational system as a boon to the Indian society. The new education system opened the windows especially to the western world and made it possible for the society to derive benefits from European philosophy, knowledge, industry, science, literature, etc. (Narullaha and Naik, 1971). These developments have been viewed as a part of the process of stabilising the interests of the colonial and imperial ambitions. With the shift in the content of education, it is viewed that the state had made an attempt to replace the stratification based on caste by one based on class. However, in the process, the internal differentiation of power across caste lines remained intact as the upper castes took up roles as upper classes in the changed scenario (Carnoy, 1974).

The political-cum-administrative aspects which had their impact on the educational system was altered according to the perceived needs of the coloniser. It may be pointed out that the British educational policies were designed to control the Indian Subcontinent politically and to keep its people economically dependent on Britain. Initially, the educational policy centered on the pacification of the native elite who had to cope with the loss of power. In this phase, the native elite were provided with the indigenous system of education under the patronage of the British.

Added to this, the British wanted India to provide markets for finished goods which were produced in large quantities during the industrial revolution. It became imperative to inculcate British norms and values in Indians in order to make them consumers of British goods. The educational system served as a tool to transmit these values. This led to the introduction of the Anglicists policy.

Although there was resistance to the new educational system, this was circumvented by creating a demand for the English language by hiring English trained Indians to serve the bureaucracy at the lower levels. These were lucrative jobs by Indian standards. This created an intermediary class which acted as a buffer between the governing class and the masses (Carnoy, 1974).

Although there was a change in the curriculum and to a great extent in the language of instruction, the clientele remained, by and large, the same. The British desired that education be limited to a small section of the society (again comprising of the traditional elite). These individuals would aid the British in the administrative process. Hence, Indians mainly from the upper strata of society were trained to occupy subordinate positions in the hierarchy of the elite structure in the colonial social order (Seal, 1968).

Thus, the function of the educational system in the traditional society and during the British rule was to maintain *status quo*. This change in the education system was in congruence with the existing social structure. The fact that the literacy level at the time of independence was less than 17 per cent, indicates that the educational system had screened out the majority of the population from formal education. In sum, it can be said that changes in formal education, consolidated through imperial rule, performed a similar function as that of the indigenous system of education of preparing individuals for positions of statecraft (Nagaraju, 1989).

In India, after independence, while the society continued in terms of its cultural and structural aspects, the state formed was new with a contradictory set of values. The consensual base of the present system of education was not a part of the total Indian society. This can be illustrated by the statement in the recent National Policy of Education: "Education has an acculturating role. It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit,

thus, furthering the goals of socialism, secularism and democracy enshrined in the Constitution" (National Policy of Education, 1986: 3).

If education has to play its legitimate role laid out in the Constitution, then it should give importance to self-monitoring in relation to specific social contexts.¹ This social context, in fact, becomes the underlying principle to explain social behaviour (Cooley *et al*, 1933: 47; Hargreaves, 1967). The drawbacks, inherent in social behaviour theories, do not enable one to examine the nature and function of the educational system which essentially must be studied within the structural framework of which it is a part.

Studies in different social contexts demonstrate the subordinate position of education in reproducing the social structure represented by class, status groups, cultural conditions, etc. (Bowles, 1977; Bowles and Gintis, 1977; Bourdieu, 1973). It is argued that it is essentially the power structure which is reproduced. If this is accepted, then it is possible to apply the conflict theory² in the Indian context. Otherwise, it becomes difficult to accept an educational system which is perceived as performing an acculturating role. Such a theoretical perception assumes conflict as being endemic in Indian society. The educational system functions to reproduce the social structure by conditioning its responses to suit the competing demands of the dominating power groups. This proposition needs to be operationalised to demonstrate the role of education in reproducing the social structure.

Empirical Studies on School Quality

The nexus between education and stratification is brought to the forefront with a body of literature, based on several research studies (Bowles and Gintis, 1977; Bourdieu, 1973). In an attempt to understand the issues related to equality of educational opportunity, the quality of schooling focussing on school differences became the major interest of theorists and researchers in the early 1960s and 1970s in the West. Thus, the focus shifted to the process/contextual variables which have been studied extensively in the recent past in developed countries. By and large, this issue has not attracted much attention in the context of developing countries.

Only a few studies in the comparative perspective have been conducted by Heyneman and Loxley (1983) and Fuller (1986), comparing the differences in schools across developed and developing countries.

In the Indian context, education as a system and its role in the reproduction of the social structure has received less attention. Therefore, it is of interest at this point to study the responses of the educational system to the other superordinate systems which would enable us to know the role of the educational system. The literature reviewed is presented in relation to three broad areas:

- (a) Studies related to access to education.
- (b) Studies related to education and occupation.
- (c) Studies related to socio-economic background of students.

While studying the nexus between education and stratification with specific reference to rural India, one has to operationalise the rural stratification and educational system and it is necessary to review research studies on school quality.

Studies in the area of school quality in developed and developing countries have raised questions on the role of the formal education system in reproducing the social structure of their respective societies. Most countries have taken affirmative action to ensure equal educational opportunities. However, bridging the variation in the differences in school quality has remained a challenge for most nations.

The importance of quality education and its bearing on success in later life has been studied extensively in the United States. Efforts made to study the effect of school factors was a major area of interest especially after the US Office of Education issued a report titled "Equality of Educational Opportunities" (EEO) to fulfill a provision of Civil Rights Act of 1964. The findings of the studies were contradictory in nature. While some argued that school certainly had an effect on achievement and was important, others ruled out the effect of school, claiming it to be marginal. This, in turn, was attacked by critics who questioned the adequacy of the indicators used to measure the quality of school and also the statistical techniques used (Coleman *et al*, 1966; Jencks *et al*, 1973; Mosteller and Moynihan, 1972; Guthrie, 1971).

Karl Alexander and Edward McDill's (1976) study, "Selection and Allocation within Schools: Some Causes and Consequences of Curriculum Placement" has shown that despite the severely critical initial response to the equality of educational opportunity report (Coleman *et al*, 1966), its general conclusions have proven remarkably robust. In particular, the finding that educational outcome is largely independent of school differences, has been confirmed through a thorough re analyses of the EEO data (Mosteller and Moynihan, 1972) and also through a substantial body of subsequent research (Alexander and Griffin, 1976; Hauser, 1969; Hauser *et al*, 1976; McDill Rigsby and Meyers, 1969).

The first maintains the traditional research framework but tries to understand the mechanism of transmission of the well-documented modest impact of the school level properties. The various mediation models of contextual effects are representative of this interest (Alexander and Griffin, 1976; Keisling, 1969; Nelson, 1971). The second stream of research shifts attention from the physical properties of schools, such as, the quantity and quality of their instructional hardware to the organisation of institutional activities which may vary appreciably, both between and within schools. This conceptualisation has been developed in the Wiley Harnischfefer's (1974) *Quality of Schooling Model*, which has already generated a small body of research and considerable interest (Keeves and Lewis, 1983; Keddie, 1971; Wiley, 1976; Climaco, 1992).

Finally, in contrast to the EEO Report's exclusive concern with differences between schools, the search for school effects has moved within the educational institutions. It has been frequently noted, for example, that differences in student outcomes arriving from differential access to and utilisation of resources within schools (including exposure to instruction, as in the Wiley-Harnischfefer model) are not captured in research employing schools as the unit of analysis, in which homogeneity of educational experiences within institutions is implicitly assumed (Bowles and Gintis, 1977; Jencks and Brown, 1975; Bustein and Smith, 1972). Hence, sources within school influence are systematically neglected in traditional school effects research.

Richard Murnane (1981), interpreting the evidence on school

effectiveness, tries to examine the systematic differences in the quality of education provided in public schools. Knowing what kind of school resources really make a difference would help the public policies to be implemented to improve the quality of education provided to disadvantaged children. He contends that the earlier studies based on input-output analysis, educational production function and the multivariate studies of school effectiveness created a data base where research strategy can be viewed as taking a snapshot of a school system at work. These studies focus on physical facilities, library books, student-teacher ratio, school size, etc. In recent studies, the definition of resources has been expanded to include characteristics of teachers, classmates, indicator of teacher quality, the amount of time devoted to learning tasks and description of institutional techniques which, in turn, has helped in providing reliable information on the impact of school resources on student achievement.

The most notable findings of these studies reveal that there are significant differences in the amount of learning taking place in different schools and in different classrooms within the same school, even among inner city schools and even after taking into account the different backgrounds that the children belong to. The importance of this result found in all four studies that have addressed this question cannot be underestimated (Ashline *et al*, 1976; Hanushek, 1972; Murnane, 1975). It provides support to the idea that it is worthwhile devoting attention to the question of why some schools provide better education than other schools do. The factors discussed in detail are related to teachers, peer groups, class size, instructional time, physical facilities, and instructional strategies and curriculum.

Edward McDill, Leo Rigby and Edmund Meyers (1969) in their study of educational climates of high schools—their effects and sources show that (1) the contextual analysis demonstrates that the educational climates of schools have a moderate effect on the mathematics achievement and college plans of students with relevant individual attributes controlled; (2) intellectual or cultural factors of the community, school curriculum and facilities do not affect climate of high schools. However, the degree of parental involvement and commitment to the school is the only contextual

variable which is a source of climate effects. The results of this study offer substantial evidence that there are “over-achieving” and “under-achieving” schools. They also point to the need for more intensive studies of such deviant institutions. Such research should produce, in the foreseeable future, systematic evidence on “the realities of the teaching learning process as they actually are and as they might be”.

Robert Hauser (1968) in his study on schools and the stratification process brings out the influence of socio-economic origins on the outcomes of secondary schooling (academic achievement, course marks and aspirations). The results reveal that intelligence plays a key role in mediating the influence of social origins on educational outcomes. There is, however, better evidence of teacher discrimination and school differences as factors influencing educational outcomes.

Pioneering researches done by Brookover *et al* (1988) find that differences in student achievement in schools may be traced to differences in school characteristics. The significance of quality of schooling especially at the primary level and its effect on achievements has attracted attention of researchers in comparative education in recent years. Meta-analysis of large number of studies carried out in several countries reveal that the school effects are more pronounced in developing countries with a low per capita income than the developed countries (Heyneman and Loxley, 1983; Fuller, 1986).

Francoise Caillods and Neville Postlethwaite (1989) in their work titled *Teaching/Learning Conditions in Developing Countries*, have enumerated many factors that operate to produce pupil learning and achievement—the child’s home background, the curriculum, the materials, language used, the time devoted to instruction and homework, the pupils’ motivation, the teacher’s perception of the ability of the class, their education and status, their behaviour and teaching practices which form a network of influences affecting pupil-learning. Since, in most of the developing countries, the teacher constitutes the main, if not, the only agent of transmission of knowledge in schools, the authors focus on the teacher variable in the teaching-learning process. The other related variables are teacher’s qualification, working conditions, teacher’s

environment, teacher's guidance and supervision and teaching aids. Importance to instructional time, home work and time at task are also given. School management curriculum and essential facilities like desks, blackboards and instructional materials are also included.

Benno Sander (1972), in his study on the "Educational Input Factor in Brazilian Schools", deals only with certain internal input components of the educational system. They are: (1) principal quality; (2) staff quality; (3) specialised personnel; (4) school services; and (5) school facilities. The results indicate that the services and facilities are significantly better in private schools than in public schools.

The importance of school mapping and micro-planning in education has been stressed by a division of educational policy and planning, International Institute for Educational Planning (IIEP), UNESCO, 1983. They have discussed, in detail, the conceptual and methodological problems posed in the study of the quality of educational services. The factors discussed here are: (i) the distribution of work among teachers; and (ii) the importance of female teachers, especially in countries where the schooling of girls meets with resistance on the part of the parents. The other factors are teacher-pupil ratio, physical infrastructural facilities, and socio-cultural accessibility which include the gap between family ethos and school promoted values, the way the school is organised, its time table and the way holidays are fixed. It does not, however, take into account the specific needs of the family especially in rural areas, where work is seasonal and where children are needed to lend a hand in the fields at certain times in the year.

The studies reviewed so far gives us an understanding of the factors that affect educational process in developed countries. This aspect has received little attention in the Indian context.

With the reviews in the area of sociology of education in the Indian scene, it is possible to make the following observations:

1. Many of the studies focus on equality of educational opportunity at the higher education level and they are mainly done with respect to participation or access at that level.
2. Studies related to the poor performance of the weaker sections

have been done in relation to economic and family background.

3. Some studies have been undertaken in the area of social stratification and education and have been carried out in relation to higher education.
4. Studies in the area of school factors have been undertaken in relation to inputs or outputs. A few studies examine some factors of school processes.

Studies on Access to Education in India

Studies on equalisation of educational opportunities reveal that the participation of the scheduled castes and tribes is lower than that of the non-scheduled castes children at all levels (Aikara, 1987; Rao, 1991). The reasons for the low participation are the poor socio-economic status (Chinnappan, 1987; Dhongade, 1991), poor academic background, absence of literate parents, negligence of parents (Devi, 1991) and frequent migration (Barua, 1991). Incentives namely books, mid-day meals have facilitated participation of the weaker sections (Sharma, 1991).

However, these studies also point to the educational inequalities which exists within the scheduled castes. The differences in the socio-economic background is an important factor. It is the caste and regional differentiation that determine their chances of benefiting from the positive discrimination policies of the government (D' Souza, 1987). There are inter-sex, inter-caste and inter-state disparities in terms of educational advancement among the scheduled castes. The policies and programmes for their welfare have been useful, but they are nevertheless grossly inadequate (Chitnis, 1981).

Parents opine that non-suitability of school timings, non-availability of separate schools for girls, absence of female teachers (Gupta, 1987) and non-resident teachers contribute to low participation (Krishnamurthy, 1991; Sharma, 1991).

Studies indicate that school related factors, namely, unsympathetic behaviour of teachers, multiple class teaching, single-teacher schools (Barua, 1991; Hussain, 1991) inefficiency of teachers (Bihari, 1987; Masavi, 1987) affect student attendance resulting in low participation especially at the primary level.

Prasad (1991) finds that there exists a rural-urban difference which affects the achievement of students. Controlling for caste it is noticed that the rural-urban factor was crucial in determining the attainment of students. Studies reveal that the causes for the rural-urban difference are home background, poor school facilities and absence of educated parents. This contributes to low achievement (Devi, 1991). The participation of the weaker sections is relatively low in class I and reduces as one moves to the higher standards (Agarwal, 1987).

Education and Occupation

The response of the education system to the economy has not attracted attention of the Indian educational researchers. However, there are a few isolated studies which can be classified under this area, though not directly related.

Singh (1987) investigates the pattern of occupation and education in rural areas of Varanasi among various socio-economic groups to see if there is any change in the pattern of occupation. The study indicates that the percentage of the agricultural and non-agricultural workers are 45 and 55 respectively. The relatively small percentage of the population engaged in agriculture especially in rural areas was an indication of the shift in occupation. The distribution of workers in various occupations differs from caste to caste. An increase in educated population results in a drop in percentage of people engaged in agricultural jobs and a corresponding increase in the percentage of workers in government jobs. The shift in the occupation among different castes show that government jobs are most popular among upper castes and scheduled castes, cultivation, for the middle castes and business, for the trading community.

IAMR (1987) study on "Women in the Labour Force and Their Educational Composition" reveals that there is a rise in the number of women in the labour force, in general, and especially with respect to women with the educational level of matriculation and above.

Another study relating to "Sociological Analysis of Problems of Employment of University Graduates in Mysore" brings out the predominance of male students over female students in science

and technical courses. The Brahmins constitute the single largest group in this category followed by Lingayats and Vokkaligas. The study is exploratory in nature and lists the causes for unemployment as perceived by students: over-population of students, lack of job-oriented education, industrial underdevelopment, and lack of proper educational policies of government. The students, in general, prefer government jobs to private jobs (Parvathamma, 1987).

Shah (1987) in his study on "Problem of Unemployment among Graduates in Poona", reveals that the system of higher education failed in achieving 'occupational socialisation' of students. There is a strong resistance among graduates to accept rural jobs on account of low compensation, inadequate amenities and insecurity of jobs. The respondents differ sharply on the issue of the reservation of jobs for the SCs/STs.

The above studies show that the opening of higher institutes of learning and vocational education is one of the responses of the educational system to the economy. But there has been serious shortcomings in terms of an established link between education and employment. This has resulted in large scale unemployment of graduates. Moreover, the participation at the higher educational level as well as the upper rungs of the occupational structure shows a monopoly of the upper strata at the initial stages giving them a head-start in the initial expansion of the economy. To begin with, the policy of reservation in employment did not have much effect on the SCs as the educated among them were few. In course of time, more and more SC members have been utilising reservations in education (Khobragade and Patil, 1987). In recent years, the educated scheduled castes are facing a crisis by the shrinking employment market in the government sector.

Thus, we see that having responded to the pressure of the economy the educational system still maintains *status quo* by giving head-start to the upper strata, who have acquired the requisite qualification for the entry either to higher education or occupation.

Socio-Economic Differences and Educational Achievement

One of the important studies which focuses on primary education in rural areas is that of Kamat (1968). The major finding of this

study is that the progress of education among the landowning peasants is higher as compared to that of the landless. The study identifies the decline in the educational participation of the labour strata in the rural communities. Household was the unit of analysis and the household data have been aggregated across villages. Some of the other studies have shown the existence of inter-caste, inter-state or inter-regional disparities in access to education with respect to SCs (Acharya, 1987; Chitnis, 1981; D'Souza, 1987).

Acharya (1987), in his study on "Education and Agrarian Relations", states that literacy and enrollment have declined steeply with the hierarchical order of the rural society. The participation of the lower classes of the agrarian society, in the process of organisation of education for the area, was negligible. Most respondents from the higher strata opposed the introduction of universalisation of elementary education (UEE) even though their children registered a higher percentage of enrollment. The reasons for their opposition stem from the fear of losing child labour and threat to traditional authority pattern. On the other hand, the lower strata are not inclined to UEE since it results in a net loss to the family income as the children also contribute. It is also true that the teachers and leaders of the villages are not instrumental in creating awareness about education among the lower strata.

Bhattacharya's (1991) study on "Social Stratification and the System of Education" looks into the social mobility in three generations. The study reveals the presence of inequality of educational opportunity that exists in West Bengal. The observations of social mobility over three generations reveal that a majority of the people in the lower social strata remain socially immobile, while social mobility operates in the middle class. The study also reveals that the inequality of educational opportunity emerges out of the introduction of logistic support and cultural inequalities at home with the organisational climate and effectiveness of the system of education. The system as revealed in the study is stratified and educational stratification reinforces the prevailing system of social stratification. It is stressed that the system of education acted as a reinforcement to social stratification and inequity. This is true even in the urban context (Prasad, 1991).

Naik's (1976) study on "Equality, Quality and Quantity" dis-

cusses the effects of the power structures on the allocation of resources to education. The study reveals the dual nature of the system that operates in relation to aspects of school quality with high standards in a small group of institutions and a less favourable situation in the majority in terms of resources. He also discusses the reservation policy in the light of the operation of educational system as a sub-system of society. With the new reservation policy, a new upper or middle class has grown in their midst where some of the members are co-opted into the system legitimising the policy and these co-opted members become the henchmen of the ruling classes. Another observation made is that the benefits of the reservation policy has gone to a few organised and vocal sub-castes and tribes and not benefited the intended target groups. In terms of quality, the standards are going up in the small core system meant for the 'haves', even as they are going down in the larger penumbra of schools meant for the 'have nots'. Such a dual system is the inevitable result of scarcity where the powerful 'haves' ensure good education for their children but do not accept any responsibility for providing similar education to other people's children. This situation is due to the close link between privilege in society and quality in education.

A study conducted by Nagaraju and Ramachandran (1991) on "Structural and Organisational Determinants in Relation to Schooling of Rural Population" argues that the predominance of rural population in India requires conscious attempts on the part of educational researchers to understand the function of education in rural society. Developing the village typology as low-conflict to high-conflict continuum, villages have been viewed as a manifestation of rural agrarian power structure. The conclusions drawn are that the distribution of educational level analysed along caste stratified society indicate a step-like hierarchical distribution rather than a continuous distribution. At the apex of this hierarchy are the dominant castes. The sharpness of the breaks in the distribution of education along caste lines is blunted when the distribution is analysed in terms of occupational class or income classes, notwithstanding the nexus between caste, occupation and income.

Secondly, a greater level of schooling in terms of the number of years of schooling in a low conflict situation is restricted to the

dominant castes. When the weaker section (so defined) find themselves numerically dominant in a village, its performance is, in fact, worse than its counterparts in a village where the dominant caste is numerically strong. The empirical analysis leads one to believe that in a caste homogenous community, the degree of inequality in the distribution of educational level is of lower order than in the case of a diversified community. This again is invalid where caste homogeneity of the village is of scheduled castes and service caste population, where the level of educational achievement is low and the inequality is high. Irrespective of the criteria used for stratification of rural population, gender differences in educational attainment in each strata is evident.

Bhatia and Vijay Seth (1975) in their study on "Hierarchy in the System of School" try to assess the role of education in reducing social inequalities, which, according to them, needs an exercise in political economy. The system of stratification in terms of social classes is broadly conceived as consisting of three classes—upper, middle and lower. There is every possibility of at least three types of schools which cater to the needs of these three prominent strata.

Jayaram (1987) in a study on "Education and Social Structure" attempts to examine the socio-economic and cultural background of the entrants to professional courses and identifies non-academic factors influencing admissions. The study reveals that: (i) even though admissions to higher and professional courses are based on merit, in actuality non-academic and socio-cultural factors like caste, economic background, ability to afford and status of parents and medium of instruction play a major role. Facilities for higher education are available mainly to the higher stratum of society; (ii) it is also noted that students in professional education are a select group and the medical students are an elite among them. There is a strong tendency for maintaining the parental social status.

A study by Ushadevi and Nagaraju (1989) has reviewed the development of literacy among school-going children during the 1960s and 1970s using census data. The literacy gains of the cohorts of 5-14 age as revealed in two successive census documents have been obtained. The study reveals that there is a marked difference in the literacy rates of rural and urban population. Further, it is shown that when sex as a variable was introduced, it is the rural fe-

male literacy gains which are the least. The reasons cited for the disparities that exist between rural/urban and male/female are poverty, schooling facility and attitude of family members. It is concluded that the existing inequality is mostly due to poverty in the case of urban males, poverty coupled with lack of facilities in the case of rural males, and in the case of urban and rural females it is the cumulative effect of all the three factors.

School Related Factors

The lack of infrastructural facilities in rural schools has been highlighted by several studies (Kumar, 1987; Das, 1987; Mali, 1987; Gogate, 1991). In addition, teachers of single teacher schools live away from the family and hence spend a considerable amount of time on commuting. Despite training, the teachers are not equipped to manage single teacher schools.

The school environment as a variable has been studied by Deshpande (1987), Doctor (1987) and Upadhyaya (1987). While Deshpande finds no specific trend of organisational climate to differentiate between high and low achieving schools, Doctor indicates a relationship between classroom climate and academic achievement. Upadhyaya finds that there are three aspects of classroom environment: interpersonal relationships; (ii) goal orientation, and (iii) system maintenance and change. These are significantly related to academic achievement (Girija, 1987; Mishra, 1987; Malik, 1987; Verma, 1991; Kamila, 1991). In a study conducted by Suthar (1991) which uses a factorial design to study the effect of caste, teacher's effectiveness, responsibility and gender on pupil's achievement, finds that out of eighteen interactions, only caste and teacher effectiveness turns out to be significant. /

Khader's (1992) study on "Differences Between Private and Public Schools and Their Effect on School Achievement" is based on the Class X Board Examination results of ten schools. Five private and five public schools were chosen and classified as high quality, average quality and low quality schools. The variables studied in relation to school factors are type of school, teacher component, school size, expenditure and the overall quality as perceived by the teachers and headmasters/mistresses. The student factors included achievement value, study behaviour, educational

aspiration, parental concern, socio-economic status, language proficiency, etc. The study reveals that the quality of schools is affected by the type, teacher-student ratio, school environment and academic orientation. The critical factors to school success are: intelligence, educational aspiration, school environment and language proficiency. The trend suggests that the school system runs along the line of stratification system of the society.

Varghese and Govinda's (1993) study on "Inter-School Variation in Student Achievement: An Analysis of Primary Schools in Five Selected Localities", brings out the importance of maximising the learning time. The other related factors are the teacher, the classroom interaction methods, planning of teaching activities and internal monitoring of the schools. Parent teacher co-operation is positively related to school achievement (Vij, 1983).

Bhatty (1998), in a study of "Educational Deprivation in India: A Survey of Field Investigations", addresses the issues of economic constraints, schooling quality and parental influence as a set of possible influences determining the educational decisions within the household of either sending a child to school or otherwise. Bhatty argues that there is an overemphasis on child labour and inadequate parental motivation which is a major obstacle to universalisation of primary education. Rather, it is direct costs of schooling and the low quality of schooling facilities which prevents the child from attending school.

Tilak (1996), based on data generated by the National Sample Survey Organisation on household expenditures on education, draws attention to the fact that households spend substantial amount of money on acquiring primary education. More specifically, it has been found that students pay tuition fee, examination fee and other fees even in government schools. The financial and material incentives provided by the government are far from adequate to meet the cost of primary schooling of poor children. There are large scale regional variations in aspects relating to public provision of incentives and also to the levels of household expenditure on education.

Nambissan (1996), in an article on "Equity in Education: Schooling of Dalit Children in India", draws attention to the effect the learning environment within the formal educational system

has on the Dalit pupils. She argues that besides poor infrastructural facilities, lack of effective pedagogic support to acquire cognitive and linguistic competencies affect the schooling of the Dalit children. More importantly, the apathetic treatment by teachers and school administrators largely shape the learning experiences of these socially disadvantaged groups.

Banerji (1997), in a case study of a low-income neighbourhood in Delhi, explores the reasons why children do not complete primary education. She finds the need to focus on local conditions affecting schooling such as allocation and use of resources, and teaching-learning processes in classroom. She further asks for a shift from 'school-effects' to 'teacher-effects' in understanding differences in survival rates of children within a school.

Studies carried out so far have been in relation to participation in higher education and to some extent at the school level. But few studies have taken into account the dimension of access to quality education. Even these studies either focus on the physical facilities (inputs) or student achievement (outputs). Recent studies draw attention to certain factors of the school quality process. But they do not bring out the dynamic picture of quality of schooling in all its dimensions.

Thus, there is a need for specifically focused studies using rural settlements as an area of study to understand the dynamic nature and changes in the availability of schooling facilities, the qualitative aspects of the available schooling facilities and the interaction of the social and economic factors within the rural settlements. This will, in essence, give a deeper insight into the real problem of equality of opportunity in the Indian context.

Based on the reviews of the related literature the following insights are presented:

- (i) While there are considerable number of studies carried out regarding access to education, there has been a clear-cut bias in regard to secondary and higher education, and within it, the urban sample is favoured. These studies have revealed that at varying levels of the educational ladder, the pattern of the student composition, in relation to the social and economic factors is distinct. It is observed that the participation of the weaker/poorer

sections of the society at the secondary education level is visible; yet, in terms of the proportion of these sections in the total population it is grossly inadequate. The participation of the poorer sections of the society even to this extent is made possible due to the facilitative measures taken by the Government of India, to draw them into the mainstream.

However, when one moves higher up along the educational ladder, the representation of the poorer sections tends to fall. In contrast, the pattern of the student composition shows greater homogeneity, drawing students from the upper and upper middle strata of the society. This small representation of the weaker sections are concentrated at the lower end of the hierarchy of the higher educational institutions in terms of quality.

During the post-independence period when development activities were taken up, there was a greater demand for education. Studies reveal that there has been a greater representation of the upper and upper middle strata in higher education. Hence, this section had a headstart. In other words, the studies reiterate that the educational system works towards the maintenance of the *status quo*.

The mechanism of the process of selection that eliminates the greater sections of the society at varying educational levels is, to a great extent, unexplored. This apart, the studies that have focused on the access to education at the secondary education level have paid greater attention to the access as well as the outcome in the form of achievement. Large scale studies undertaken in developing and developed countries reveal that the school factors play an important role in developing countries. This has received less attention from researchers in India.

Studies conducted in relation to the achievement of students reiterate that the socio-economic background of students and psychological variables are crucial and the role of the school is underplayed. In addition, while studying social variables, individuals have been considered as units of analysis, and data collected at the individual level have been aggregated to derive social categories. Very few studies have used higher order of social units for study-

ing such phenomena.

(111) There is a trend in recent years to look into the school variables but these studies have concentrated on the physical facilities while a small number of them have examined the organisational climate of the schools. However, a few studies have looked into the leadership of the headmaster, time spent on the instructional activities, the teaching methods adopted, etc. Differences in achievement have also been attributed to the different types of schools which provide varying environment affecting achievement.

(112) Studies focusing at the primary level are generally in the form of surveys and in relation to the non-enrollment or dropout rates. These studies have treated individual as unit of analysis and cited the poor socio-economic status of parents as the crucial factor. The role of the school which could be a compounding factor contributing to the phenomena of dropouts and non-enrollment may throw light on a new dimension of the problem.

Except for one study by Varghese and Govinda (1993) which looks into school differences in rural areas, most of the studies have restricted themselves to the urban areas. The above study has not gone into the operationalisation of the school in its natural setting. For this, one will have to essentially take into account the structural and organisational dimensions of the village in which the school is located. In other words, it means that the interaction of the community and school which are operational dimensions of the social structure of an educational system in its setting, respectively, have to be considered.

This study not only attempts to explain the role of educational system for reproducing the social order. It also diverts from the excessive attention paid to the socio-economic background of the students to the community school interactions. This may reveal the actual/genuine reasons underlying the failure in the implementation of universalisation of elementary education.

Notes

1. While many interpretive perspectives examine interaction, the emphasis is laid on ethnographic methods to define situations or contexts. However, this is criticised on the ground that adequate account of social constraints of an individual is overlooked while recognising the importance of interaction. Hence, the definition of the situation will ultimately be determined by the extent to which it is negotiable
2. The criticism of the conflict theory in the past has been its failure to take into consideration the internal working of schools and concentrating only on the access to and outcomes of the educational systems. Weber (1972) did suggest that a critical element of the power of dominant groups resides in their capacity to impose their non-educational and cultural ideals on schools.

Research Methods: A Holistic Approach

It is often argued that education as a field of inquiry has emerged with borrowed tools of analysis from other related disciplines. This has led to a restricted canvas of research, largely concerned with educational institutions and its relationship to various *a priori* parametres of inequality, viz., socio-economic status, intelligence, participation and achievements of students, and role perception of teachers at various levels. There is also an apparent bias in the nature of research in education, leaning more towards the field of psychology than any other social science disciplines. Moreover, over reliance on quantitative methods with undue preoccupation with reliability and validity of data, allowed little elbow room for a discipline like sociology of education to establish its own niche, utilising qualitative data in explaining social phenomena vide education.

We also learn that most of the research studies carried out especially in the area of primary education, both by the government and independent researchers, largely relied on quantitative method of data collection and analysis. The bias of the government towards numbers is to do with its preoccupation with macro-planning and hence, the need for quantifiable data. The failure of the quantitative approach to address significant questions related to universalisation of elementary education has given rise to a spate of studies using qualitative methods of inquiry. How-

ever, this study draws strength from both quantitative and qualitative methods in understanding the complex relationship between education and society using an ethnographic approach. Though this method is closely linked to Anthropology, of late, it is being used as a tool of social inquiry in other disciplines also. The main emphasis of this method is on observation and description of various related events to understand a particular process or phenomenon. In educational research, it can provide "...sensible means of approaching complexities of school life and identifying, if possible, the conditions under which the pupil success and failure takes place" (Avalos, 1986).

The research procedures of the present study consist of: collection and analysis of official district data on educational facilities, information on school quality through the survey method and case studies on educational processes. Observations and semi-structured interviews with the key actors like teachers, students and community underline the techniques used to study the individual cases. The detailed field notes prepared during the year-long field study give directions to analysis and generation of categories that describe the rural elementary schools as close to reality as possible. A detailed description of the method used both for the collection of data and analysis is described in the subsequent part of this chapter.

It is argued in the previous chapter that the educational system is likely to reproduce the power structure that manifests itself through the existing social stratification. In order to conceptualise this problem in empirical terms, it is necessary to identify observable units of both educational system and power structure. The school is taken as a viable unit of the educational system operating in a community that represents the visible forms of social structure. Villages, in the context of Karnataka, exhibit the apparent forms of rural social structure and render themselves as a dynamic social unit. They can be studied as miniatures of a stratified society with their topographical arrangement of habitations, connoting the internal organisation. Thus, the interaction of the school representing the educational system with a distinct community in the form of a village, or a group of habitations is taken for studying the nature of subordination of educational system to other institutions.

The subordination of the educational system can also be brought out by analysing the educational system in terms of its process and perceptions of the actors regarding roles and role performances. For understanding quality, effect of schooling on the learning of students is identified as the appropriate indicator. This indicator represents the utilisation of human and material resources by the school as well as the differential outcomes of schooling to different village communities. Hence, the task of the study is to identify distinct patterns of educational transactions, and find out the association of such patterns with the village type based on certain characteristics. Village communities primarily differ in their caste composition and other structural attributes like occupation, land distribution, income and education of the heads of the households.

The study attempts to address the following issues:

- (i) While it is well established that rural primary schools have comparatively less infrastructural facilities, material and human resources when compared to their urban counterparts, is there a second level of differentiation in terms of resource allocation between the rural schools? If there is, the next logical step would be to probe into the factors that determine the variation, and its nature and the relative impact it has on the achievement of children in these different schools.
- (ii) The second issue which is central to the study is the school quality process in terms of teacher orientations, classroom processes, school-community relationship, teacher-student interactions, and student's attendance, all of which is directly related to the quantum of active instructional time. School quality process, the extent of variation of this in different village types, along with its impact on students' achievement are analysed to bring out the role of formal education system in maintaining the *status quo*

The study has adopted both sample survey and case study methods to examine the above mentioned issues. While the first issue has been pursued through the survey method, for the second, qualitative techniques have been used. The research procedures in detail are presented in the following sections:

I

For a deeper understanding of school processes, the study uses specific propositions. To provide a comparison of educational facilities and educational outcomes amongst different village communities the following propositions are formulated:

(1) *Educational Facilities Differ across Schools Located in Villages with Different Caste Configurations*: The above proposition refers to the class/caste nexus in rural societies that reflects itself in the educational system. Due to this nexus, the distribution of resources within the educational system among the schools is likely to be influenced by the community with which it interacts and the caste configuration of the village in which it is located. In rural areas every family in a village occupies a certain position in the social hierarchy based on caste. Based on the concentration of families that share equal status in this hierarchy, villages can be classified into three types. There are villages where the majority of the families belong to higher castes and in some other villages families belonging to lower castes may dominate. There are also villages with families distributed among several caste groups. As per the argument, the villages having the concentration of upper castes are expected to attract better educational facilities. On the other hand, villages that constitute lower castes groups lag behind with poor educational facilities. The third type of village falls between these two, will have medium level of facilities. In the present context, educational facilities refer to the physical, human, and financial ingredients that go into the educational process.

This proposition is tested through formulation of specific hypotheses with reference to the different components of the qualities of educational facilities in relation to the three types of villages.

(2) *Educational Outcomes Differ across Schools Located in Different Types of Villages*: This proposition argues that utilisation of the educational facilities available in the schools for the educational processes also differs across village types. An appropriate proxy for such utilisation is the level of learning imparted in schools to the students. It is implied here that student achievement is also the result of the educational process as well as the individual abilities. However, it is imperative to develop the overall indicator that con-

siders both factors, the individual ability and the educational process in evaluating the student achievement. The major assumption here is that the village community, depending upon its social and economic bargaining capacity, exerts pressure on teachers to maximise the returns to investment in educational facilities.

(3) *Educational Outcomes Differ among Schools Having Different Levels of Educational Facilities*: The underlying argument here is that the internal working of schools in the form of the teaching-learning process is not influenced by external factors and it is the availability of facilities that determine the outcomes. This, in fact, checks and balances the first two propositions.

Concepts and Terms

Village Types

Studies on the distribution of education so far have used agrarian class and caste structures to explain the variations (Acharya, 1987; Kamat, 1968). The plethora of village studies contributed by social anthropologists in the contemporary period too have invariably reiterated the dominant role that caste structure plays in rural society. Since our purpose is to study the educational facilities through the survey method, the caste configuration of the village communities is taken as the basis of village classification.

Educational Facilities

This refers to the physical resources of the school inclusive of infrastructural facilities like teaching aids, library, health and sanitation and human and financial resources. This also takes into consideration the organisation of co-curricular activities, sports equipments, supervision and inspection, time keeping provision, pupil-teacher ratio and standard-teacher ratio.

Educational Outcomes

This is a measure of learning imparted to the students in the school. It is the average of the percentage of right responses on a group of test items under each competency in a criterion reference

test conducted to measure the attainment of Minimum Levels of Learning.

Sample Description

As the main purpose of the study is to bring out the interlinkages between school community interactions and the quality of education in the context of rural areas, information on villages of the study area assumes significance. Tumkur district of Karnataka is selected for the following reasons. In 1978, the Institute for Social and Economic Change (ISEC), Bangalore, conducted a survey to study the social and economic profiles of villages in the district of Tumkur. They categorised the villages according to profiles. The original typology had fourteen classifications. This was based on the cross-tabulation of categories of villages derived on the basis of the size of population, occupational distribution, land distribution, and the caste composition of the population in the village. However, for the purpose of the study, those categories derived on the basis of the castes were reclassified into three categories, viz., single/two caste villages, villages with diversified caste groups and SC/ST type villages. This survey covered 10 per cent of the total number of villages in the district which amounts to 244 villages. Drawing heavily from the data base, this survey has created on villages, the present study began with the investigation of educational facilities in these villages. It was found that, in the year 1990-91, out of 244 villages only 196 villages had schools. Hence, the study was limited to these 196 schools. The study adopted the method of mailed questionnaire survey and only 143 schools returned the filled in schedules. This forms 73 per cent of the total sample of schools contacted for the educational facilities. Hence, for the final analysis of educational facilities only 143 schools are included. Out of these 143 schools, 46 schools belong to the category of single/two caste village, 23 schools represent village communities with diversified caste groups and 68 schools are from village communities of scheduled caste/tribes groups.

For the purpose of differential analysis of educational outcomes, this study relies on the achievement scores generated by a

concurrent research project on the Minimum Levels of Learning. This project also used the data on the villages generated by the ISEC survey. But this study on the Minimum Levels of Learning provided data only for 113 schools. Hence, only 113 schools have been taken to compare the educational outcomes with the village types. These schools if classified in terms of the village types, there are 33 single/two caste, 21 diversified caste and 59 in the third category of scheduled castes/tribes.

Data Source

Data on Educational Facilities

The data on educational facilities were collected through a structured questionnaire. The items included in this questionnaire with regard to the physical resources are largely framed on the basis of the specifications laid down by the Committee of the Operation Blackboard (Dave and Gupta, 1988).

The questionnaire has been designed to gather information on the following items—physical infrastructure, curricular and co-curricular activities, human resources like details of teaching and non-teaching staff and inspection and supervision by various departments, financial resources including yearly income and expenditure, health and sanitation, and strength of students.

Data on Educational Outcomes

As mentioned earlier, data on educational outcomes were obtained from a concurrent project on the Minimum Levels of Learning sponsored by the Ministry of Human Resource Development, Government of India in the year 1989-90. The achievement scores in Mathematics and Environmental Science for Standard IV for 113 schools made available by this project were used as the measure of educational outcomes. Using this achievement scores to compare the educational outcome of the schools with educational facilities and village types, a school-level score was computed. The procedure followed to arrive at the school scores is given in Appendix-2.

Data Collection

Though the method of data collection for the educational facilities was a mailed questionnaire, it was administered in a different manner. The questionnaires were handed over to the Assistant Educational Officer (AEO) of each taluk. The AEO distributed them to the respective heads of the schools during the monthly meeting of the headmistresses/masters at the taluk headquarters. This procedure was adopted to maximise the return of the questionnaires. A self-addressed envelope was also provided to mail the filled-questionnaires. Two sets of reminders were sent to the schools as well as to the AEO. In all, 143 schools have sent filled-questionnaires within a time gap of six months.

Indices of Educational Facilities

Using the information obtained through mailed questionnaires, twelve indices of educational facilities were developed. The list of the twelve indices are given below. (For the procedure adopted for arriving at the indices see Appendix-1)

1. Pupil-Teacher Ratio Index
2. Standard-Teacher Ratio Index
3. Infrastructural Facilities Index
4. Health and Sanitation Index
5. Teaching Aids Index
6. Provision for Keeping Time Index
7. Human Resource Facilities Index
8. Library Facilities Index
9. Per Pupil Expenditure
10. Co-curricular Activities Index
11. Games/Sports Equipment Index
12. Inspection and Supervision Index

Analysis of Data

The data obtained through the mailed questionnaires on physical resources, human resources and financial resources were individually analysed against variables of educational facilities. The

percentage distribution of these variables across lower primary schools and upper primary schools was also obtained to give a descriptive picture of the educational facilities available in schools located in rural areas. This was followed by developing the educational facility indices by giving appropriate weights to different variables that form the components of an individual index.

Differential analysis using Chi-square has been adopted to compare the distribution of educational facility indices developed across single/two caste village type, diversified caste village type and SC/ST village type.

The achievement scores of the schools have been compared across village types using one way analysis of variance followed by t-test. Correlation technique was used to examine the relationship between educational quality inputs and educational outcomes represented by the achievement scores of the school.

II

Case Studies of School Quality

As the central issue of the study is to compare the educational process in terms of its quality across village types, deriving insights from ethnomethodology, the methods of systematic observation and interviews were also used. This served the purpose of identifying important aspects of quality of education and deriving distinct qualitative categories. Quantitative techniques whenever found amenable were used to provide additional insights.

Recalling the basic proposition of the study that educational system reproduces the existing power structure, the canvas for an empirical picturisation of this was carved out by selecting villages of different caste configuration and the schools within their geographical locality. The functioning of the schools representing the education system were studied in relation to the communities it served where the qualitative measure of the teaching-learning process became a significant factor. The other interactions and arrangements of the schools in the form of school community relationship, teacher-pupil interaction, the amount of time spent by the student in the school, formed the supportive factors influenc-

ing the educational outcomes. For a deeper understanding of the nature of social reproduction that the educational system engages in, schools in different village types were selected for intensive case studies.

Nine schools were selected for developing as case studies; three villages¹ each from the identified village types. The identified aspects of the quality of education were directly observed on different occasions in a systematic manner or inferred from the expression or reports of the people associated with the school/community through formal and informal interviews.

Observation Guideline

The data on the quality of educational process were facilitated by an observation guideline. The procedure of developing the observation guideline is as follows:

As a first step, a schedule consisting of a list of 61 items on the school quality was prepared.² These items pertain to the following broad categories:

1. Details on the strength and attendance of teachers and students.
2. Details about the physical resources, community resources, library and laboratory.
3. Teaching-aids.
4. In-service training.
5. School Organisation/Administration.
6. Co-curricular activities.
7. Supervision and inspection.
8. Interaction of community and school.
9. Evaluation pattern.
10. Special provision of the school.
11. Classroom information.
12. Classroom rewards and punishments.

The list of these 61 items were distributed to the experts. The experts mainly comprised of the instructors at the Teachers' Training Institutes (since the schedule was prepared for the quality of schooling at the elementary level). In addition, a few teacher

awardees, lecturers from the Teacher's Training Colleges, parents and university faculty were also considered as experts. While a few schedules were sent by post, most of them were given to experts and collected personally. They were asked to first mark the items contributing to the quality of the school, and then they were asked to indicate the extent of its importance on a nine-point scale starting from least important to most important. In addition to rating these items, the experts were requested to mention constructs/items that were overlooked but were crucial for school quality and not included in the schedule. Out of the 70 schedules distributed, 57 of them were completed and returned.

Analysis of the Items and Selection of the Final List

Items which were rated as not important were given a score of zero and others were given a value from 1 to 9. The Mean and Standard Deviation (SD) were calculated for all the items. The value of the Mean indicated the level of importance of the item, and the SD gave the extent of homogeneity among the experts. To represent all the twelve categories, items with a mean value of more than six and a SD of less than two were selected. The Mean of most of the items (59 items) were above six except for two items (item nos. 45 and 46) which related to punishments. Incidentally, these items also had the highest SD of 2.33 and 2.40 respectively. Out of 61 items 59 were selected.

Achievement Test

The criterion-reference test developed by the Minimum Levels of Learning Project sponsored by the Ministry of Human Resource Development, Government of India, was administered to students of Standard IV to measure the levels of learning for individual students. This test compares the educational outcomes of students amongst schools belonging to different village types. The total number of items in the Mathematics and Environmental Science tests are, 214 and 118, respectively. The scoring technique adopted is to give a score of one for a correct response and zero for a wrong response. These scores were aggregated for individual students which were used for comparative purposes.

Observation of Educational Processes

Each school was observed for the entire day for sixteen days covering all week days. These sixteen days were divided into four cycles of four days each to spread the observation of each school throughout one academic year. A detailed observation schedule spread over two months was drawn to observe all the schools in one cycle. Care was taken to see that Sundays and general holidays did not fall in the schedule. Each school was observed for four consecutive working days in the cycle. The months in relation to each cycle were first cycle—June/July, second cycle—August/September, third cycle—November/ December and fourth cycle—January/February.

The achievement test was administered to the students during the fourth cycle of observation. This test was administered to a maximum of seven students of Standard IV from each school. In all, 53 students from nine schools were given the achievement test in Mathematics and Environmental Science. The scores of the tests were used to get a measurement of achievement levels of Standard III, which could be related to both village type and the quality of educational process.

Analysis of Case Studies

Case study materials were prepared by observation and in-depth interviews for all the nine schools. Since the guideline formulated for the observation did not match the observed educational process, new parameters were evolved. These parameters were teacher orientation, school-community relationship, teacher-pupil interaction, educational transaction, students' attendance and organisation of co-curricular activities. Each of these parameters were further classified into categories that were distinct from one another. This was followed by description of individual schools with respect to each parameter.

Individual parameters of the quality of educational process were compared with the village types. This was followed by an attempt to quantify the quality of educational process and group the schools into categories. Since this emerged out of the process of analysis of the qualitative data, the details of the quantification

have been discussed along with the comparative description of the cases (Chapter 7).

The scores of the students in the achievement test have also been compared with village types and educational quality process types derived from the case study materials with one-way analysis of variance and t-tests.

Notes

1. The nine villages selected for our study were from the 25 re-surveyed villages and the schools in these villages form the cases. The data available for these villages in the year 1989 on the distribution of caste, occupation, education of the heads of the household, land and income were used to compare the quality of educational process taking place in these schools.
2. This list of items is given in the Appendix 3.

Infrastructure and School Quality

The educational facilities in rural areas are characterised by bare minimum infrastructural facilities in terms of buildings, playground and actual space available for children. There is also a stark difference in the availability of teachers, teaching aids and other facilities like library and laboratory in comparison with urban schools. Most of the studies that have drawn attention to the rural-urban difference in educational quality emphasise the poor physical facilities and the low socio-economic status of children. These measures which are inherently quantitative in nature also feed into macro-planning. As a result, there has been an overwhelming emphasis placed on increasing the infrastructural facilities in rural schools to improve the educational quality. The much talked about Operation Blackboard with its limited financial resources and bureaucratic procedures had very little impact on rural primary schools. This chapter probes into the role that a community has in the distribution of educational facilities and its effect on educational outcome manifested as students achievement.

Tumkur District: A Profile

According to 1991 census, Tumkur holds the ninth position amongst the districts of Karnataka with a total population of 2,301,448 and with 46.45 per cent of literates¹. The sex ratio of

Tumkur is 959:1,000. The percentage of male literates is 56.67 and female literates is 35.79. Tumkur ranks ninth in the literacy level in Karnataka.

Table 4.1
Literate Population 1991

	<i>Male</i>		<i>Female</i>		<i>Total</i>	
	<i>Nos.</i>	<i>%</i>	<i>Nos.</i>	<i>%</i>	<i>Nos.</i>	<i>%</i>
India	230,150,363	63.86	131,562,883*	39.42	361,713,246	52.11
Karnataka	12,868,146	67.25	8,205,971	44.34	21,074,117	55.98
Tumkur	665,660	56.67	403,340	35.79	1,069,000	46.45

*Excludes figures for Jammu and Kashmir.

Source: Census of India, 1991, Karnataka.

As evident from Table 4.1, Tumkur has lower figures for literacy compared to the corresponding state figures. The state figures for literacy are higher than the national figures.

Educational Facilities in Tumkur District

Table 4.2 presents a bird's eye-view of the educational profile of the district. Available official data from the Sixth All India Educational Survey pertaining to the educational facilities of elementary schools (comprising lower primary and upper primary schools) in rural areas reveal the following:

Table 4.2
Educational Profile of Tumkur District

1. No. of villages	2,718
2. No. of habitations	3,944
3. No. of habitations having a lower primary school	3,932 (99.69%)
4. No. of villages having lower primary school within its boundaries	2,542 (93.52%)
5. No. of lower primary schools in rural areas	1,855
6. No. of lower primary schools in urban areas	66
7. No. of upper primary schools in rural areas	956
8. No. of upper primary schools in urban areas	176

Contd...

Contd...

9. No. of secondary schools in rural areas	324
10. No. of secondary schools in urban areas	70
11. No. of higher secondary schools in rural areas	63
12. No. of higher secondary schools in urban areas	25
13. No. of junior and degree colleges (combined) in the district	99
14. Gross enrollment figures in rural areas	2,10,681
15. Gross enrollment figures in urban areas	44,683
16. Total gross enrollment figures in the district	2,55,364
17. Female gross enrollment figures in the district	1,24,553

Source: Sixth All-India Educational Survey: District Report, 1998.

Educational Facilities at the Elementary Level

The total number of elementary schools in Tumkur are 3,053. Out of them, 1,921 (62.92%) are lower primary schools and 1,132 (37.08%) are upper primary schools.

In all, 1,664 (89.70%) of lower primary schools and 862 (90.17%) upper primary schools in the rural areas have a *pucca* building. In other words, even though a majority of the rural schools have only one room, at least they have been constructed properly. Nearly 90 per cent of the teachers who work in these schools have an educational qualification of SSLC/PUC and are trained. The remaining 10 per cent of the teachers with similar qualifications are not trained.

According to the Sixth All-India Educational Survey, there are 23 rural primary schools that do not have a teacher posted to the school. In all, 27 per cent of the schools are single teacher schools and are yet to be provided with an additional teacher as per the norms of 'Operation Blackboard'. It is surprising to note that in 1993, there were three lower primary schools which did not have even a single room for instructional purpose. Nearly 22 per cent of the lower primary schools have only a single room. A little more than 11 per cent of the rural upper primary schools have only two rooms.

The Pupil-Teacher Ratio (PTR) in rural schools is better in lower primary schools with PTR of 30:1 as against 52:1 in the upper primary schools. An astonishing number of 3,628 lower

primary schools do not have a blackboard. This number will increase manifold if one were to add schools which have blackboards that cannot be used. However, the rural-urban breakup of this number is not available. Nearly three-fourths of the schools show the availability of additional reading material. But information on the nature, size, method of use is not available.

Nearly 80 per cent of the lower primary schools and 60 per cent of the upper primary schools do not have drinking water facility. The need for toilets, especially from the health point of view and more so for girls, has always failed to receive priority in rural schools. A mere two per cent of the lower primary schools and as low as 20 per cent of upper primary schools have toilets.

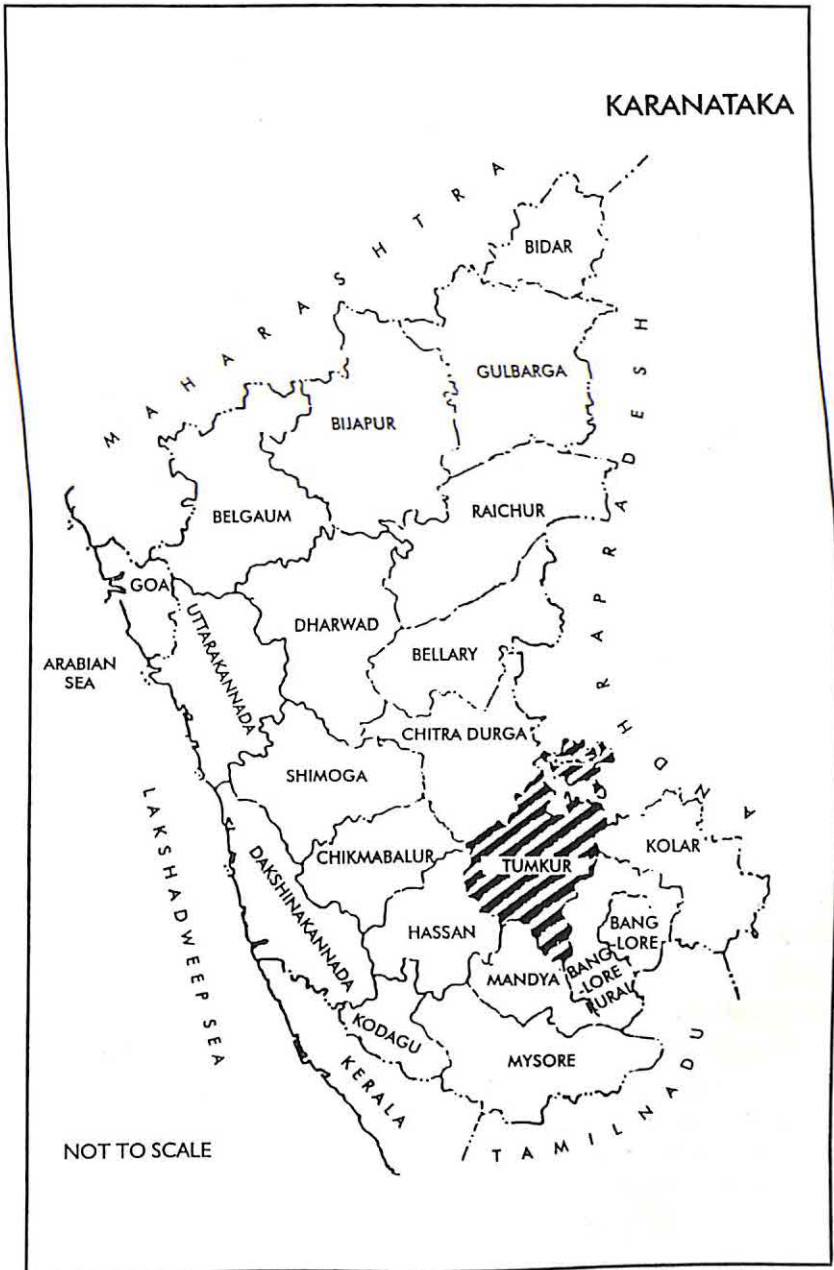
The educational profile sketched so far provides a glimpse of the distribution of educational facilities of rural schools in Tumkur district based on secondary data source. Though, resources available at this level is grossly inadequate, there is a clear-cut bias in favour of urban schools. The rural schools in Tumkur district are provided with bare minimum facilities.

This leads to an issue which is relatively unexplored in the context of rural schools. Given that rural schools are provided with bare minimum facilities, are these facilities equitably distributed? What are the factors that influence the distribution? How representative is the secondary data source of the educational facilities available in rural schools? It also tries to explore the possibility of variation in educational facilities not captured by official statistics. This chapter examines the distribution of these facilities among the sample schools in relation to the characteristics of the villages in which they are located and as a corollary tries to explore the possibility of variation. Map 1 gives the location of Tumkur district.

School Quality: Supplementing Official Statistics

Although India can proclaim of being one of the largest countries that generates massive data officially, it has been severely criticised on the front that the data generated does not lend itself for useful analysis that can feed into policies. The problem lies not only with the data being unreliable, but also with the absence of focused micro studies which may be able to clearly point to the lacunae of the

Map 1
Location of Study District



official statistics and give a holistic understanding of the problem of primary education in the country. While it is important to examine what the official data system disclose, it may become necessary to devise methods to fill gaps in the data through micro-studies. An analysis of the information collected through the mailed questionnaires from schools and information on community characteristics available for these villages is provided below.

Descriptive Analysis of Educational Facilities

This chapter gives a general profile of school facilities available in the sample schools. Simple percentages are obtained on the various aspects of the quality indicators² to give an overall view of the educational facilities available in these schools. Further, these facilities are compared across village types. The following quality indicators are considered for the purpose.

1. Infrastructural Facilities
2. Health and Sanitation Facilities
3. Human Resources Facilities
4. Availability of Sports Equipments
5. Teaching Aids
6. Availability of Library Facilities
7. Provision for Time Keeping
8. Per Pupil Expenditure
9. Frequency of Inspections/Visits.
10. Organisation of Co-curricular Activities (CCA)
11. Pupil-Teacher Ratio
12. Standard-Teacher Ratio
13. Frequency of Excursions Per Year
14. Availability of First-Aid Kit

Based on the response of the schools, they are classified into different categories. While classifying the schools on different aspects of educational facilities, the distribution within the sample was used. This step was taken because of the fact that very few schools have facilities according to the norms prescribed under the new educational policy. While classifying, wherever it is required, the quartile points are located on the distribution and schools

above 75 per cent points are classified as better schools and those falling below 25 per cent points as poor schools. Schools lying between these two points are considered as average schools. The percentage of responses with respect to each of the categories³ has been discussed below to give an overall picture of the availability of the educational facilities among the sample schools. This exercise has been undertaken separately for the lower primary schools and the upper primary schools since the latter are at an advantage to demand better educational facilities.

Infrastructural Facilities

More than 85 per cent of the schools surveyed do have a *pucca* building and less than 15 per cent have a partly *pucca* building. None of the schools showed the presence of *kuchcha* building. The trend is similar for both the lower and the upper primary schools. Irrespective of being an upper or lower primary school, 50 per cent of the schools have a built-in area per pupil ranging from 5.46-12.21 sq. ft. There are 25 per cent of schools that have less than 5.46 sq. ft. area which is below the prescribed norm and 25 per cent of schools that have more than 12.21 sq. ft. built-in area per pupil.

Two-thirds of the lower primary schools and three-fourths of the upper primary schools do not have playgrounds. Among few schools with playgrounds, the lower primary schools have a larger unit area per pupil compared to the upper primary schools. This may be because the upper primary schools have invariably more number of students as compared to lower primary schools.

Health and Sanitation Facilities

The sample schools are found to have poor basic health and sanitation facilities. Among the schools that are reported to have some facility, drinking water is given the priority. In sum, 45 per cent of the upper primary schools and a mere 7 per cent of lower primary schools have drinking water facility. Around 90 per cent of the upper primary schools and 2 per cent of the lower primary schools do not have a toilet. However, the upper primary schools show a better picture as compared to the lower primary schools.

Human Resource Facilities

The educational and professional qualification of most teachers in rural primary schools are SSLC and TCH. A small percentage of teachers in the upper primary schools are graduates with TCH training (23.51%) or have undergone graduate teacher's training (17.6%). Three out of every four teachers have an average years of service of more than five. The trend is similar for the lower and upper primary schools. Data on in-service training reveal that, practically no teachers received such training during the past three consecutive years, i.e., between the years, 1986 to 1989.

Sports Equipments/Provisions

Most schools are not provided with any sports equipments. Except for the provision for Kho-Kho⁴ for 64.7 per cent of the upper primary schools. Most schools are conspicuous with the absence of sports equipments, in spite of the implementation of "Operation Blackboard".

Availability of Teaching Aids

Availability of teaching aids in the sample schools gives a dismal picture with a meagre percentage having teaching aids. Only 40 per cent of the schools have textbook copies for the teachers' use. In spite of "Operation Blackboard", science kits have not yet reached the schools. The other teachers' support materials are not available in most of the schools. The lower primary schools are marked by the total absence of teaching aids. Ironically, 50 per cent of the upper primary schools have the country map. Though these very same schools do not have a state or a district map.

Library Facilities

A majority of the schools have less than four books per student. As expected, 90 per cent of the upper primary schools fall under this category. The corresponding figure is 70 per cent for the lower primary schools. This may be due to the fact that the supply of library books to the rural schools may be the same, irrespective of the student strength and level of the school. The survey indicates

that books are not circulated in the case of lower primary schools. In contrast, the upper primary schools issue books at least once a month to the students.

Provision for Timekeeping

Only 41 per cent of the lower primary schools report the availability of a working clock. The corresponding figure in upper primary schools is 74.5 per cent. Most schools own a school bell, though not a working clock. Taking into consideration the availability of the rooms, probably the need for the school bell may not arise at all.

Per Pupil Expenditure

Per pupil expenditure excluding teachers' salaries is abysmal and is as low as 10 rupees in the case of 80 per cent of the schools. This is true of lower and upper primary schools.

School Inspection/Visits

It has been observed that the overall picture shows that, on an annual basis, most of the schools have been visited less than 20 times by the education department and less than 10 times by other agencies. About 20 per cent of the upper primary schools report that the frequency of visits by the Education Department is more than 20 and fare better than the lower primary schools in this respect with a corresponding percentage of four.

Organisation of Co-curricular Activities

Co-curricular activities do not form a part of the school activities in most elementary schools. As in other cases, the upper primary schools are comparatively better in this respect.

Pupil-Teacher Ratio

This value is obtained by dividing the total number of teachers in the school by the total strength of the students. It is expressed as:

$$\text{Pupil-Teacher Ratio} = \frac{\text{Total Strength of Students}}{\text{Total Number of Teachers}}$$

Based upon the distribution of the values of pupil-teacher ratio the schools are classified into the following three groups, namely:

1. Pupil-teacher ratio greater than or equal to 64:1.
2. Pupil-teacher ratio between 63:1 and 36:1.
3. Pupil-teacher ratio less than or equal to 35:1.

The percentage distribution of schools among the above mentioned categories are given separately for the lower and upper primary schools.

Table 4.3
Percentage Distribution of the Schools in Terms of the Pupil-Teacher Ratio

	<i>Pupil-teacher Ratio > 64:1</i>	<i>Pupil-teacher Ratio Between 63:1 - < 36:1</i>	<i>Pupil- teacher Ratio < 35:1</i>	<i>Total</i>
Lower Primary Schools	28.3 (26)	47.8 (44)	23.9 (22)	100 (92)
Upper Primary Schools	17.6 (9)	56.9 (29)	25.5 (13)	100 (15)

Note: Figures in parentheses are frequencies.

The state norm for pupil-teacher ratio in Karnataka is 50:1. From Table 4.3, it can be seen that more than 80 per cent of the schools have pupil-teacher ratio less than this norm (the mid-point of the middle category of the table works out to be 45 students per teacher). However, the pupil-teacher ratio loses its significance in the context of rural schools, as the more important question is the ill-equipment of teachers to simultaneously teach multi-grades.

Standard-Teacher Ratio

This ratio is obtained by dividing the total number of teachers in the school by the total number of standards. The value, thus, obtained is classified into the following three categories:

1. Single-teacher schools.
2. Multi-grade teaching schools.
3. Single-class single-teacher schools.

Table 4.4
*Percentage Distribution of Schools According to
the Standard-Teacher Ratio*

	<i>Single Teacher School</i>	<i>Multi-grade Teaching School</i>	<i>Single-Teacher Single-Class School</i>	<i>Total</i>
Lower Primary Schools	67.4 (62)	32.6 (30)	Nil	100 (92)
Upper Primary Schools	9.8 (5)	60.8 (31)	29.4 (15)	100 (51)

Note: Figures in parentheses are frequencies.

The data presented in Table 4.4 show that two out of every three lower primary schools have one teacher teaching all standards simultaneously. The remaining lower primary schools have a situation where one teacher has to engage more than one standard at a time. There was not a single lower primary school in the entire sample that had the privilege of one teacher per standard. It is ironic, that given the rural situation of multi-grade teaching, the teacher training institutions still adhere to training teachers assuming that they will be placed in schools that have at least one teacher per standard.

In the case of upper primary schools, only a small percentage are single-teacher schools while a majority of the schools fall into the category where one teacher has to handle more than one standard simultaneously. Only three, out of ten, upper primary schools have one teacher for one class.

Frequency of Excursions per Year

Based on the information regarding the frequency of excursion for three consecutive years, the average frequency is calculated. Given below is the percentage distribution of schools according to the following categories:

1. Less than once annually.
2. At least once annually.
3. More than once annually.

Nearly 75 per cent of the upper primary schools organise an excursion at least once a year, while 64.1 per cent of the lower primary schools do not organise any annual excursions.

Availability of First-Aid Kit

Most of the rural schools are not provided with a first-aid kit. Just 13 per cent of the lower primary schools have a first-aid kit. The corresponding figure in the upper primary schools is 27.5.

From the above analysis of the percentage distribution of the educational facilities, it can be ascertained that, except for a building, (which is *pucca* for most of the schools) and a teacher, the schools in rural Tumkur are poorly equipped. Examining the distribution of the schools across the categories of pupil-teacher ratio, it is evident that the rural schools in general, are well within the norm (50: 1) prescribed by the Government of Karnataka. However, this does not find relevance in these schools with multi-grade teaching. The general qualification of teachers employed in rural schools is limited to SSLC, TCH. Participation of teachers in the in-service training programme is also a rare phenomenon. The absence of teaching aids and sports equipments is more pronounced among the rural schools. In fact, not even 50 per cent of the teachers are provided with a copy of the textbooks. In all, 47 per cent of the upper primary schools possess a map of the country but incidentally, the district and state maps are not provided in these schools. The poor health and sanitation facilities prevailing in the rural schools also demand special mention. Among these facilities, that too, within the upper primary schools, the provision of drinking water has been prioritised. The absence of toilet facilities from the sample of schools is conspicuous with 90 per cent of the schools not having the facility.

Having drawn the profile of the educational facilities in Tumkur rural district, an attempt has been made to see whether the limited facilities available in the rural schools are spread out evenly or are concentrated in some particular type of villages.

Differential Analysis of Educational Facilities

The analysis so far reveals that the sample schools are poorly equipped. Further, the study raises the question, given the poor educational facilities do they differ across schools located in villages belonging to different types? In order to address this question, several quality indicators using related variables are developed. The differences in the distribution of educational quality indicators across village types have been analysed using Chi-square technique. In addition, the relationship of the educational quality indicators with the achievement scores have been examined using correlation technique. This is followed by analysis of variance to compare the achievement scores with village types.

Infrastructural Facilities

The infrastructural facilities comprise the following, namely:

1. The built-in area per student.
2. The area of playground per student.

Schools with different built-in area per student have the following scores:

- Less than 5.45 sq. ft. has been given a score of one.
- Ranging from 5.46 sq. ft. to 12.21 sq. ft. has been given a score of two.
- Greater than 12.21 sq. ft. has been given a score of three.

Similarly, for the playground the following scoring pattern has been adopted:

- Schools with no playground have been given a score of one.
- Schools with a playground area per student less than or equal to 4,356 sq. ft. have been given a score of two.
- Schools with a playground area per student greater than 4,356 sq. ft. have been given a score of three.

The index of infrastructural facilities for a school is derived by summing up the scores obtained by the school on each item. The categories of the schools are derived using quartile points of the distribution of the scores. Schools falling above 75 per cent of the distribution are classified as good schools with respect to facilities. Schools falling below 25 per cent of the distribution are classified

as poor schools and the remaining schools in between these two points are as average schools.

Using the above classification, the Chi-square value is computed controlling the level of the school. Since the Chi-square value is not significant it is inferred that both lower and upper primary schools with respect to the infrastructure facilities do not differ among the single/two caste villages, diversified caste villages and the SC/ST villages.

Health and Sanitation Facilities

The index of the health and sanitation facilities consists of the following, namely:

1. Drinking water facility.
2. Lavatory facility.
3. Separate lavatory facility for girls.
4. Electricity facility.

Schools having none of the facilities have been classified as poor. Schools having any of the two facilities as average and the schools having more than two facilities have been classified as good. Using the above categories, the Chi-square value has been computed controlling the level of the school. As the Chi-square value is not significant, it is inferred that the lower and upper primary schools with respect to the availability of health and sanitation facilities do not differ among the single/two caste villages, diversified caste villages and the SC/ST villages.

Human Resource Facilities

The human resource facilities basically comprise the following two factors, namely:

1. The average years of service of the teachers.
2. The percentage of teachers sent for in-service training in three consecutive years.

The average years of service of the teachers in a school has been obtained by summing the total length of service of an individual teacher and dividing it by the total number of teachers. Based on the value obtained on the average length of the service of the

teachers the schools have been classified into three groups, namely:

1. The average length of service of the teacher equal to or less than five years has been given a score of one.
2. The average length of service of the teacher greater than five years but less than eighteen years has been given a score of two.
3. The average length of service of the teacher greater than eighteen years has been given a score of three.

The percentage of teachers sent for in-service training in three consecutive years is obtained by the ratio of number of teachers sent for in-service training in three consecutive years to the total number of teachers in the school. Based on the obtained value the schools are classified as:

1. Less than 33.33 per cent has been given a score of one.
2. Between 33.33 and 66.66 per cent has been given a score of two.
3. Greater than 66.66 per cent has been given a score of three.

The values, thus, obtained for individual schools on (a) average length of service; and (b) percentage of teachers sent for in-service training in three consecutive years have been summated to obtain the score of the Human Resource Index. Based on the index, the schools have been classified into the following categories:

1. Schools with a score of two as poor.
2. Schools with a score between three and four as average.
3. Schools with a score greater than four as good.

Using the above classifications, the Chi-square value is computed controlling the level. The Chi-square value cannot be computed for the lower primary schools since all the schools have been classified into the first category. In the case of the upper primary schools, the Chi-square value obtained is not significant. Thus, it is inferred that the human resource facilities do not differ among the schools belonging to single/two caste villages, diversified caste villages and the SC/ST villages.

Sports Equipments/Provisions

The index of sports equipments/provisions consist of the follow-

ing items, namely: dumb-bells, leyzims, loops, football, volleyball, tennicoit, shot-put, high jump, long jump and kho-kho.

Each of the above items has been individually marked on a three-point scale and the respective values given:

1. Non-availability of the item has been given a score of one.
2. Availability of the item, but not put to use has been given a score of two.
3. Availability of the items and the use it has been given a score of three.

The scores obtained by the schools on each of these items have been summed up to arrive at the index.

The categories of the schools have been derived using quartile points of the distribution of the scores. Schools were classified as good, average and poor.

Using the above classification, the Chi-square value is computed controlling the level of the school.

The obtained Chi-square value is not significant. Thus the schools with respect to sports provision do not vary across village types.

Teaching Aids

The index for teaching-aids comprises of the following: syllabus, textbook, handbook, district map, state map, country map, globe and science kit.

Thus the schools have been classified as:

1. Availability of less than any three items as poor.
2. Availability of any four to six items as average.
3. Availability of more than six items as good.

Using the above classifications, the Chi-square value is computed controlling the level of the school.

As the value of Chi-square for both lower and upper primary schools are not significant, it is inferred that the schools with respect to the availability of the teaching aids do not differ among the single/two caste villages, diversified caste villages and the SC/ST villages.

Library Facilities

The index/score for the library facilities has been obtained after giving individual scores to the following components:

1. Books per pupil.
2. Frequency of issue of books.

The values obtained by the schools for each of these components have been arranged as a frequency table and the schools have been rated on a three-point scale using the quartile points as the cut-off points. A score of one has been given to the school that is below the first quartile and a score of two for those between the second and third quartile. The schools in the fourth quartile have been given a score of three.

The scores, thus, obtained by a school on both these components have been summed-up and reclassified as follows:

1. Schools with a score of two as poor.
2. Schools with a score between three and four as average.
3. Schools with a score of greater than four as good.

Using the above classification, the Chi-square value is computed controlling the level of the school.

The obtained Chi-square value being insignificant, it is inferred that the schools with respect to the availability of the library facilities do not differ among the single/two caste villages, diversified caste villages and the SC/ST villages.

Timekeeping Provision

The index of the timekeeping provision consists of the following variables that is clock (in working condition) and a bell.

The schools have been classified into two categories as follows:

1. Schools having any one of the items as poor.
2. Schools having both the items as good.

Using the above classification, the Chi-square value is computed controlling the level of schooling.

The Chi-square value is not significant in the case of lower and upper primary schools. Thus, it is inferred that schools with respect to provision for timekeeping do not differ among single/two

caste villages, diversified caste villages and SC/ST villages.

Per Pupil Expenditure

Based on the value of the per pupil expenditure, the schools have been categorised into the following groups, namely:

1. Per pupil expenditure below 85 paise as poor.
2. Per pupil expenditure ranging from 85 paise to 10 rupees as average.
3. Per pupil expenditure above 10 rupees as good.

This classification is based on the frequency distribution and quartile points. Based on the classification the hypothesis is tested.

There is no significant difference in the per pupil expenditure across schools located in different village types. With Chi-square value not being significant, it can be concluded that the per pupil expenditure does not differ significantly across the single/two caste villages, diversified caste villages and SC/ST villages.

Supervision and Inspection

The index for supervision and inspection comprises the following components:

1. Supervision/inspection exclusively by the education department in three consecutive years.
2. Visits by other agencies.

The values for each of these components have been arranged as a frequency table. The schools have been rated on a 3-point scale using the quartile points as the cut-off points. A score of 1 has been given to the school in the first quartile and a score of 2 for those between the second and third quartile. A score of 3 has been given for the schools in the fourth quartile. The scores, thus, obtained by a school on both these components have been summed up and reclassified as follows:

1. Schools with an index score of two as poor.
2. Schools with an index score of three as average.
3. Schools with an index score of above three as good.

Using the above classification, the Chi-square value has been computed controlling for the level of the school. Since this value is

not significant, it can be inferred that the supervision and inspection available in the schools do not differ among the single/two caste villages, diversified caste villages and the SC/ST villages.

Organisation of Co-Curricular Activities

Adopting a similar procedure as in the case of school inspection, the index for co-curricular activities has been derived with the help of three items: the frequency and level of participation in sports activities of students and the level of participation of the school at block and district levels in literary/cultural activities for the past three consecutive years. The schools are categorised as follows using the index:

1. Schools with an index value of three as poor.
2. Schools with an index value of greater than three but less than six as average.
3. Schools with an index value of six and above as good.

Using the above classification, the Chi-square value is computed controlling the level of the school. The Chi-square value obtained is not significant in the case of lower and upper primary schools. Thus, it can be inferred that there is no difference in the organisation of the co-curricular activities at the school level among the single/two caste villages, diversified caste villages and the SC/ST villages.

Pupil-Teacher Ratio

Based on the pupil-teacher ratio obtained for individual schools, the schools are categorised into three groups using the frequency distribution and quartile points. They are:

1. Pupil-teacher ratio greater than or equal to 64:1 as poor.
2. Pupil-teacher ratio between 63:1 and 36:1 as average.
3. Pupil-teacher ratio less than 35:1 as good.

Using the above classification, the following hypothesis is tested: There is no significant difference in the pupil-teacher ratio in the schools located in different village types.

To test the above hypothesis, the Chi-square value is computed controlling the level of the school. From Table 4.5, it can be

seen that a value of 1.55 is obtained with four degrees of freedom for the lower primary schools and 14.49 with four degrees of freedom for the upper primary schools. The obtained value for the lower primary schools of 1.55 less than the theoretical value of 9.49 and hence, the hypothesis is accepted. However, the obtained Chi-square value for the upper primary school is 14.49 which is greater than the theoretical value of 9.49 at 0.05 level of significance and hence, the hypothesis is rejected in this case.

Table 4.5
Percentage Distribution of Schools in Terms of Pupil-Teacher Ratio Across Different Village Types

Village Type	Lower Primary Schools				Upper Primary Schools			
	Poor	Average	Good	Total	Poor	Average	Good	Total
Single/two Caste Villages	8* 26.7** 30.8***	13 43.3 29.6	9 30.0 40.9	30	1 6.3 11.1	8 50.0 27.6	7 43.7 53.8	16
Diversified Caste Villages	4 28.6 15.4	6 42.8 13.6	4 28.6 18.2	14	-	11 73.33 37.9	4 26.67 30.8	15
SC/ST Caste Villages	14 29.17 53.8	25 52.08 56.8	9 18.75 40.9	48	8 40.0 88.9	10 50.0 34.5	2 10.0 15.4	20
Chi-square	1.55				14.49#			
df	4				4			
Total	26	44	22	92	9	29	13	51

* Frequencies

** Row per cent

*** Column per cent

Significant at 0.05 level of significance

Thus, it reveals that the pupil-teacher ratio does not vary significantly among the single/two caste villages, diversified caste villages and SC/ST villages with reference to the lower primary schools. But in the case of the upper primary schools, the pupil-teacher ratio varies significantly among the single/two caste

villages, diversified caste villages and the SC/ST villages.

Standard-Teacher Ratio

The standard-teacher ratio obtained for individual schools are categorised into three groups, namely:

1. Single teacher handling all the classes as poor.
2. Multi-grade teaching with more than one teacher as average.
3. One or more teachers per standard as good.

Using the above classification, it can be seen that the standard-teacher ratio does not differ significantly among the single/two caste villages, diversified caste villages and SC/ST villages.

The descriptive analysis in the earlier section indicates that the schools have at the most a room and a teacher. Hence, the variation exists in the form of pupil-teacher ratio (PTR). The PTR appears to be significantly different for the single/two caste schools with an advantage over the diversified caste schools, and more so from the school located in the SC/ST villages at the upper primary level. Therefore, the general hypothesis does hold good and indicates that the educational facilities represented by the pupil-teacher ratio vary across village types. After examining the variation of the school quality indices with village types, an attempt has been made in the following section to relate each of the school quality indices with the school achievement.

Analysis of the Achievement Scores with Educational Facilities

It is proposed that educational outcomes differ with schools having different levels of educational facilities. Correlation technique has been used for the components of school quality inputs and school achievement scores. The numerical values of the indices are used to find out their relationship with the school achievement scores⁵ in mathematics and environmental science. The following table gives the value of the correlation co-efficient of each of the indices against the achievement scores in Mathematics and Environmental Science.

Table 4.6

Correlation Table of the Quality Inputs Indices with Achievement Scores in Mathematics and Environmental Science

<i>School Quality Input Index</i>	<i>Mathematics</i>	<i>Environmental Science</i>
Expenditure Per Pupil	0.0992	0.1160
Teaching Aid	0.0606	0.0064
Infrastructure Index	0.0936	0.0955
Library Index	0.0266	0.0353
Human Resource Index	0.0541	0.0833
Supervision Index	-0.0240	0.0579
Sport Equipment Index	0.0971	0.2076
Co-curricular Activities Index	0.0735	0.0957
Timekeeping - Provision Index	0.0304	0.0875
Pupil-Teacher Ratio	-0.0730	0.0875
Standard-Teacher Ratio	0.1589	0.1192
Mathematics	0.4129**	
Environmental Science		0.4129**

** Significant at 0.001 level

From Table 4.6, it is clear that the school quality indices are not related to the achievement scores either in Mathematics or Environmental Science. However, there is a relationship of 0.4129 at 0.001 level of significance between the achievement scores in Mathematics and Environmental Science.

The reason for the absence of relationship between achievement and the components of educational facilities may be due to the fact that the variation in both sets of variables may be minimum. In other words, many of the educational facilities are not present in most of the schools. This has come out very clearly in our descriptive analysis. Moreover, the achievement scores obtained for different schools is within a narrow range. This is indicated by the mean and standard deviation of the sample. With reference to Mathematics and Environmental Sciences, the respective values are 76.79; 16.75; 84.81 and 19.13.

After having examined the relationship between educational facilities and achievement scores an attempt has been made to ex-

amine whether the school achievement differs across village types.

Analysis of Achievement Scores in Relation to Village Type

To examine whether the performance of children in schools differ across village types, the following hypothesis is tested using one-way analysis of variance followed by t-tests:

- (1) There is no significant difference in the means of achievement scores of mathematics across three types of villages.
- (2) There is no significant difference in the means of achievement scores of environmental science across three types of villages.

The level of significance fixed for accepting the hypotheses is 0.05 level in the case of both F and t tests using village types as independent variable categories and school achievement scores as dependent variable.

Table 4.7
Analysis of Variance of Achievement Scores in Mathematics Across Village Types

Source	df	Sum of Squares	Mean Squares	F-Ratio	F-Prob.
Between Groups	2	1627.5649	813.7825	3.0064	0.0536
Within Groups	110	29775.3377	270.6849	-	-
Total	112	31402.9027	-	-	-

Table 4.7 gives the result of the analysis with respect to Mathematics. From this table, it is clear that the obtained F value of 3.0064 is almost equal to the theoretical value of 3.07 and therefore, it is taken as significant at 0.05 level of significance. Thus, it can be inferred that the students in schools located in different types of villages perform differently in Mathematics test.

To find out whether the three figures mean significantly differ, t-tests have been conducted for the achievement scores in Mathematics between the following groups:

1. Single/two caste and diversified caste village type.
2. Single/two caste and SC/ST village type.
3. Diversified caste and SC/ST village type.

It is seen from Table 4.8 that the obtained t-value between (i) single/two caste and diversified caste village types (0.89) and between (ii) single/two caste and SC/ST village type (1.62) is not significant at 0.05 level of significance. That is, the means of achievement scores in Mathematics obtained by the schools do not differ significantly between (i) single/two caste village type and diversified caste village type; and (ii) single/two caste village type and SC/ST village type.

However, the obtained t-value of 2.33 is greater than the theoretical value of 1.980 with 78 degrees of freedom at 0.05 level of significance. It can be inferred that the means of the achievement scores of schools differ significantly between the diversified caste village type and SC/ST village type, with the schools located in diversified caste villages performing better. Apart from the statistical significance, if the means are arranged in descending order, schools located in diversified caste villages have a higher mean followed by the schools located in single/two castes villages and the schools in SC/ST caste villages at the bottom.

Table 4.8
Achievement Scores in Mathematics and Village Types

	<i>Single/Two Caste (1)</i>	<i>Diversified Caste (2)</i>	<i>SC/ST Caste (3)</i>
Mean	79.0303	82.8571	73.3729
N	33	21	59
S.D.	15.308	15.506	17.354
S.E.	2.665	3.384	2.256
t between groups 1 & 2 = 0.89			
between groups 1& 3 = 1.62			
between groups 2 & 3 = 2.33*			

* Significant at 0.05 level

Similar analysis is carried out for Environmental Science.

The obtained F-value of 4.3843 is greater than the theoretical value of 3.07 and is significant at 0.05 level. Hence, the difference in the mean of the achievement scores in Environmental Science do differ significantly across the village types.

Table 4.9
One-way Analysis of Variance of Achievement Scores in Environmental Science Across Village Types

<i>Source</i>	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Squares</i>	<i>F Ratio</i>	<i>F Prob.</i>
Between Groups	2	3026.4147	1513.2074	4.3843	0.0147
Within Groups	110	37965.3021	345.1391		
Total	112	40991.7168			

The t-tests carried out for the groups as in Table 4.8 for Environmental Science is found to be significant with regard to (i) single/two caste and diversified caste villages; (ii) diversified caste and SC/ST village type. This indicates that the students from schools in diversified villages perform better than students of other village types. However, the mean achievement scores of students from the single/two caste village type and SC/ST village type do not differ significantly.

Summary of Analysis of Quality Indicators

The analyses so far have revealed that the schools in rural areas have a bare minimum in the form of a *pucca* building and are characterised by multi-grade teaching. A majority of the sample primary schools are single teacher schools. The differential analysis of educational facilities across village types indicates that there is hardly any variation of the school quality indices with village types except in the case of pupil-teacher ratio. The PTR in the upper primary schools differ significantly with village types. The schools in single/two caste village types have a lower PTR, followed by schools in diversified caste villages and it is comparatively highest in the schools located in SC/ST concentrated villages. When the 12 indices of school quality are correlated with mathematics and environmental science achievement scores at the school level, it is found that none of the indices are significantly related with the achievement scores in both the subjects.

Finally, when the schools located in three village types are compared in terms of their achievement in mathematics and envi-

ronmental science, it is found that the schools located in diversified villages show significantly higher education outcomes in mathematics when compared to single/two caste villages and the SC/ST caste village type. In the case of environmental science, both diversified and Single/Two caste villages show higher attainments compared to the schools located in SC/ST concentrated villages.

It appears from the analysis that the schools in rural areas do not differ much in terms of the educational facilities, but educational outcomes as achievement scores differ across different village types. This difference in achievement can be explained by the variation in the quality of educational processes across schools located in different types of villages. The nature of such processes has to be studied in qualitative terms to understand their dynamic nature. Since ready-made tools and categories to study such processes on a large scale are not available, in-depth case studies of schools located in different types of villages are undertaken to study the educational processes. These case studies also enable comparison of qualitative dimensions of educational process across these villages. Such an analysis is made using descriptive categories of qualitative aspects of educational process. Chapter 5 discusses the educational process indicators in detail.

Notes

1. The figures of the literates exclude children in the age group of 0-6, who are treated as illiterates in the 1991 census.
2. For more details on the quality indicators, see Appendix-1
3. For details of categories of school quality indicators, see Appendix-4.
4. Kho-Kho, is a local game and the only equipment required are two poles.
5. The procedure for obtaining school achievement scores and the source of data have been discussed in Chapter 3. Such data set is available for 112 schools of the sample.

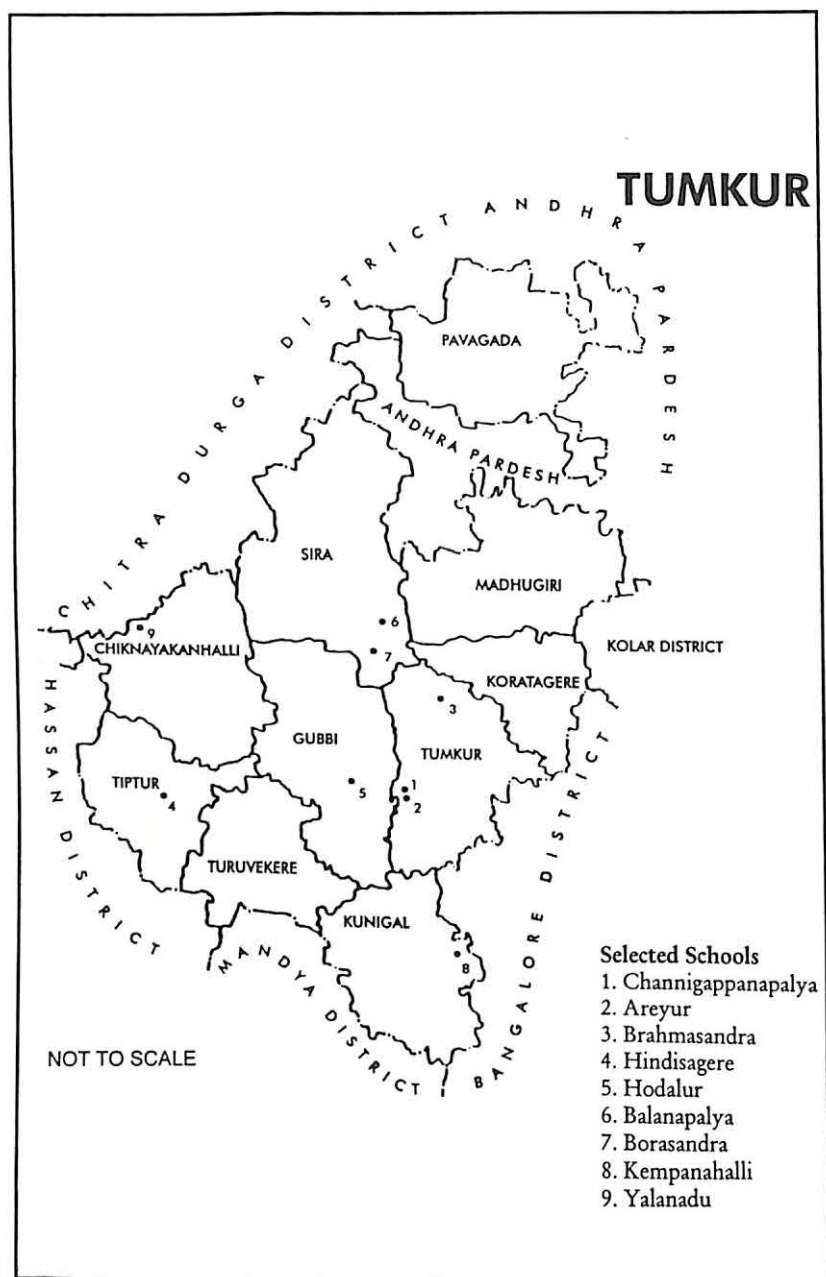
Schooling: A Social Phenomenon

The analysis made so far has revealed that the educational outcomes differ among the sample villages. It has been pointed out in the previous chapter, that in the absence of variation of the educational facilities, the differences might be due to the educational processes taking place in the schools. This is true especially in the SC/ST concentrated villages that have schools where students learn less when compared to schools in single/two caste and diversified types of villages. Since educational processes involve the subjective experience of the teacher and the student the detailed case studies are conducted.

Three cases each from three caste-based types of villages have been selected to provide appropriate representations. Map 2 gives the location of villages and the schools. These cases were a part of 25 villages that were resurveyed by ISEC in 1989 after a gap of a decade. Hence, the data on the attributes of caste, occupation, landholding, income and level of education of the heads of the households are available. The present study was conducted during the academic year 1991-92. It is assumed that the characteristics of these villages could not have changed much within a span of two years.

Schools located in each of these villages are treated as independent units. An in-depth study of the educational transactions and other school related interactions with the village have been

Map 2
Location of Case Study Schools



carried out. The analysis is in the form of generation of categories of educational processes and comparing the incidence of such categories in different cases observed.

It may be recalled that the methodology refers to the systematic observations of the schools spread over one academic year. Each school has been observed for sixteen days in four cycles. Systematic observation, purposeful unstructured interviews and informal discussions formed the methods of data collection. The descriptive fieldnotes for each day of observation maintained separately for each school constituted the data for analysis. The first task of the analysis has been to read and re-read these field notes and separate the instances and episodes available in the field notes into different components of educational processes. It has been found during the observation that all the characteristics and aspects were not present in rural schools. However, the recorded observations, irrespective of individual schools have been sorted into different parameters of quality of educational process. This has been carried out as the first round of analysis.

This analysis yielded the following aspects of educational processes: (i) teacher orientation; (ii) school-community relationship; (iii) student attendance; (iv) average length of the school day; (v) teacher-student interaction; (vi) educational transactions; and (vii) co-curricular activities.

Each of the above has been analysed further by using specific criteria to generate qualitative categories.

Teacher Orientation

There is a consensus regarding the importance of classroom interaction in determining the quality of education. Classroom interaction, in turn, is influenced by the orientations of teachers regarding the (i) purpose of education to the rural population, attitude towards the abilities of children and (ii) formal definition of the educational objectives while doing specific educational activities. Therefore, it is necessary to examine these aspects before looking into the actual educational transactions. Based upon the fieldnotes obtained, an attempt has been made to classify teacher orientation(TO)s.

The first dimension of TO refers to their mind-set regarding the role of education in the life of rural population. The categories that emerge out of the field notes are discussed with illustrations below:

Formal Education is Unnecessary and the Students Should be Left Alone

The above category is inferred from the statement of teachers made in casual conversation, teacher's verbal reactions to the students' behaviour, teacher's conversation with the parents, etc. Some of the illustrations that fall under this category are:

1. The headmaster of the school at Borasandra persistently pointed out that most of the children were from poor households and belong to the lower castes whose lot will not improve with any effort. Actually, he did say, "See Madam, these people will never improve and our stay is temporary in this village, so, it is easier to allow them to be as they are rather than attempt a change".
2. This teacher (who belongs to a scheduled caste) worked in the same school. He continuously beat the children and surprisingly was more rude to the SC students. He called them as "kadu-jana" (forest people) and believed that they would not learn without beating. According to him, these students had no brains or the will to study and only beating would help. He admitted they could not be handled without a stick. "You know, during our days, we were also beaten by our teachers and taught and this practice is only practical". He adds, "teaching such kids would make one forget the alphabets. Even stones would respond but not these kids". When parents came to call these children for some household chores the teacher readily sent them saying that it would serve two purposes: (1) the discipline problem would be eased; and (2) these children would graze the cattle better than learn alphabets.
3. Another teacher from the same school kept referring to the students "as good for nothing, it is better if they go and graze cattle". He also referred to the village as a "backward village where nothing can be done". He complained about the disinterest of parents. "They themselves are not bothered and these

- kids will end up as labourers in the end. Why then do they need education?"
4. The teacher from Brahmasandra, during the conversation, expressed "whatever benefits are provided, these people will not improve". He continued "how can they improve? They are used to working as labourers and bringing them to school is like giving a pearl chain to a monkey".
 5. One teacher from Channigappanapalya had strong caste feelings which he tried to conceal. At times, he made fun of a boy, who was an Achari (carpenter) by caste. He said, "Why do you come to the school? It is better you stay at home and learn your occupation. Education will be of no help to you".

Education in Schools is Useful and Required

While the teachers with negative attitudes have categorically stated in many instances the lack of usefulness of education, positively oriented teachers acknowledge the usefulness of education for the students. Their concern is about the difficulties faced by parents, students and the community, in general, in obtaining education. Some of the examples of the above orientation are:

1. One teacher at Balanapalya would cajole students to attend the school and with the rapport she had with the villagers, could persuade them to send their children to school. During the course of her teaching, she would refer to the efforts of the parents in sending their children to the school, and tell the students the least that they could do would be to study.
2. The teacher at Balanapalya assured that he could improve students of Standard I and II and would be able to show progress with the lessons as scheduled in another three years. He pointed out to the heavy workload in a single teacher school. He felt that with some tact if lessons were organised, student progress was possible.
3. Teacher 4 of Brahmasandra was the only teacher of this school who had examined the question paper of the achievement test given in the last cycle. He conceded that it was possible for students to attain these minimum learning levels. He also suggested that the achievement test (given to few students at

the end of the observation cycle) be conducted in the presence of the entire class so that all of them could benefit from it. He expressed interest in wanting to know the outcome of the study.

Teacher 5 of Brahmasandra was generally affectionate to the students. He believed that some of the students might not pick up at the first instance. These students could be classified as slow learners and could learn with repetition. He had divided each class into two batches, one, where students picked up at the first instance and another where students needed repetition. Even after that if they did not learn he retained them in the same class with the consent of the parents.

The acting headmaster (Yalanadu) commanded rather than demanded respect from the community, teachers and students. He was very cordial to parents and visitors. When parents came they were asked to be seated. He gave a patient hearing to their problems, solutions were worked out immediately and the parents were sent back with a sense of relief. Even to the health worker he was very mild, and made polite enquiries, offered coffee and all arrangements were made to make the routine health check-up as easy and smooth as possible. He did not leave a stone unturned to get the maximum benefit for most of the students. Hence, he had become very popular among the villagers.

Teacher 3 of Yalanadu was very enthusiastic in associating himself in any thing new that was introduced in the school. He tried to build a competitive spirit among students. He goaded them to perform better. He was very encouraging to students while conducting the class and never failed to reward a student by saying "good" when the correct response was given.

Teacher 4 (Yalanadu) was the seniormost teacher of the school and seemed to know greater details of the village than the others. On more than one of the observation days he was seen watering the foundation of the new extension of the school along with the students. When questioned, he said, "This is our school and hence, most of the teachers do this as and when they are free".

8. Teacher 5 had a lot of patience in handling the small kids and was very perceptive to their needs. He knew each child by name and adopted a teaching style to suit students of different learning levels. He was very encouraging to slow learners and spent a lot of time to see that they picked up. Even the students were uninhibited and approached him with any of their problems. When children were sent to play or sent for nature studies, he actively involved himself in all their activities to the delight of the children.
9. Teacher 6 (Yalanadu) was the sports teacher and took great pride to be associated with this school. He said he got full co-operation from the staff as well as from the students. When he was not engaged in sports activities he helped in the other activities of the school.
10. The headmaster of Kempanahalli was non-interfering in nature, yet had a watchful eye about the activities in the school. He had good rapport with the students and they had the freedom to complain if any lesson was not taught properly. He arranged special classes for the weaker students with the help of the teachers. He was concerned about the welfare of the students and repeatedly complained that there was no playground and toilet facilities for the children. He encouraged teachers who are good. He had developed a team spirit among teachers and all of them worked towards the betterment of the school.
11. Teacher 2 (Kempanahalli) took a keen interest in the welfare of the village and hoped for a high school and a college (This village has a private high school but the common man cannot afford the fees. Only the better-off families go to this school). He was friendly with the villagers. Even among the students he was popular and very understanding.
12. Teacher 3 (Kempanahalli) regularly conducted special classes for the slow learners. It was surprising to see that even for the special class that was optional, all the weak students attended. The students also appreciated her teaching. Students who were poor and could not afford to buy books were provided note books by this teacher. She ensured that any benefit available from the government was utilised by maximum number of students. The parents also acknowledged that this teacher was

very good and they were lucky that their children could benefit from her.

13. Teacher 5 (Kempanahalli) was aware of slow learners and paid special attention to them. He encouraged them to learn and tried to bring them into the mainstream. He resided in the same village, yet spent more time in the school rather than with his family members. Often he was seen in school after school hours. He expressed that better rapport with the villagers had helped the teaching process.
14. Teacher 6 of Areyur was a local resident. Earlier, in charge of a single teacher school in a nearby village, he expressed that student progress could be shown if an additional hand was appointed. He believed that if teachers made some effort, it was but natural that students would improve their performance.

Definition of Educational Objectives

Another dimension of teachers' orientation refers to the definition of the educational objectives either expressed or inferred from their teaching behaviour. The field observation indicates four broad categories in which these teachers have been classified. Each of these categories with illustrative observations are given below:

1. The objective of teaching is to link knowledge, information and skills with the child's experiences so that learning will be meaningful.
 - (a) Teacher 3 (Kempanahalli) believed in adopting effective teaching techniques and maximising student participation. This, according to her, would bring about better learning. She opined that relating the child's experiences with learning would make instruction more interesting and effective (refer to specific episodes under Functional Instruction in educational transaction).
 - (b) Teacher 5 (Yalanadu) was in charge of Standards I and II. Every new alphabet was introduced by referring to a word familiar to students. For example, to introduce the compound letter *Ai* words like *Raitha* (farmer), *Kai* (hand) were used. During the nature studies, students were asked

to identify names of objects and its formation was referred to in the classroom teaching.

- (c) Teacher 2 (Yalanadu) introduced the concept of fraction, division, multiplication, etc., with simple daily life situations. For example, sharing of food among children, sharing of marbles among friends, buying of provisions, etc., were familiar experiences in most students' lives. He highlighted the utility of this knowledge to the students.
2. The main function of education is to transmit the prescribed information found in the textbooks to the students to enable them to pass the examinations.
 - (a) For instance, the teacher at Hindisagere treated his profession as a paid job. Progress in syllabus was seen during the different cycles of observation. He confined himself to transmitting textbook information. This was inferred from the observation that most of the problems were directly picked from the textbooks. Examples cited by him are again textbook based. He adopted a 'single best way of teaching' which served his purpose-information transmission (for specific example, refer to Information Transmission Episodes).
3. The purpose of primary education is to teach the basic skills like reading, writing and arithmetic.
 - (a) Teacher 5 of Brahmasandra had been assigned to teach Standards I and II. He was of the opinion that the students must be well ground in basics like the alphabets and multiplication tables. This had to be given priority in the elementary classes. He did not believe in following the textbook that was meaningless unless the students had learnt the alphabets thoroughly.
 - (b) The teacher at Balanapalya believed that children had to be well-versed in basics and repeatedly stressed their importance. Her classroom activities reflected her belief. Children, in general, (irrespective of the standards) were seen engaged in activities like loud reading, repetitive writing, etc., which were directed to gain mastery over the basic skills. (Refer to episodes under the E.T. category of Grinding in Basics.)

4. The teachers consider themselves physical caretakers of students and prevent children from getting into mischief.
 - (a) All the three teachers of Borasandra (in general), for a greater part of the observation, were seen not assigning any specific work to the students. Students were allowed to do any activity of their choice. These activities had to be carried out within the framework of tolerable noise. Punishments as physical abuses and shouting were resorted to, when the order was disobeyed.
 - (b) Teacher 2 of Borasandra admitted that these children could not be handled without a stick. With the energy he spent on beating and harassing the kids, he is tired in half an hour. He conceded, "I am tired by this time, and after this I can only give written work to the students".
 - (c) Teacher 3 was late by two hours. He was humming a song with a bag swung on his shoulder that had only the lunch box. His explanation was "I had some work, which I had to attend to. Anyway, I don't teach and the children have to be retained in the school till 5 o'clock. So it does not matter whether I come at 11 am or 1 pm. The villagers also do not bother".
 - (d) Teacher 2 of Channigappanapalya was deputed to this school from a nearby upper primary school at Areyur. He admitted his disinterest in teaching because of low pupil strength. He revealed during a conversation that "Moreover, with the office work, there is no time left to teach and hence, I do not teach." According to him, it was the responsibility of the parents to teach. He said "These children, whose parents are not interested in education, will never learn. If they cannot teach one child, how can we teach so many children? Moreover, with the problem of shortage of teachers...". Children were frequently beaten up for talking.
 - (e) Teacher 2 of Hodalur constantly complained about the problem of under age faced by the rural teachers because of the policy of voluntary admissions. He resented the villagers as they had converted the schools into creches. This teacher suggested that the Minimum Levels of Learning

Chart 1
*Classification of Teachers According to their Mind-set and
Definition of Educational Objectives*

<i>Name of the Village</i>	<i>Teacher No.</i>	<i>Mind-set Regarding Meaning of Education</i>	<i>Definition of Educational Objectives</i>	<i>Place of Residence Outsider/Local</i>
Channigapp-anapalya	1	Hostile	Not defined	O
	2	Hostile	Not defined	O
Hindisagere	1	Hostile	Textbook information	O
Yalanadu	1	Positive	Textbook information	L
	2	Positive	Textbook information	L
	3	Positive	Textbook information	L
	4	Positive	Textbook information	L
	5	Positive	Textbook information	L
	6	Positive	Textbook information	L
	7	Positive	Textbook information	L
Balanapalya	1	Positive	Basics	O
	2	Positive	Related to life	L
Areyur	1	Indifferent	Not defined	O
	2	Positive	Textbook information	L
	3	Positive	Not defined	L
	4	Negative	Not defined	O
	5	Negative	Not defined	O
	6	Positive	Basics	L
Kempanahalli	1	Positive	Related to life	L
	2	Positive	Related to life	L
	3	Positive	Related to life	L
	4	Positive	Textbook information	L
	5	Positive	Related to life	L
Borasandra	1	Hostile	Not defined	O
	2	Hostile	Not defined	O
	3	Hostile	Not defined	O
Hodalur	1	Indifferent	Not defined	O
	2	Hostile	Not defined	O
	3	Indifferent	Not defined	O
	4	Indifferent	Not defined	O
Brahmasandra	1	Indifferent	Basics	O
	2	Hostile	Not defined	O
	3	Hostile	Not defined	O
	4	Positive	Textbook information	L
	5	Positive	Basics	O

Chart 2
School-wise Distribution of Teachers Against Teacher Orientation and Place of Residence

Name of the Village	Teacher Orientation		Place of Residence		Remarks				
	Mind-set Regarding Meaning of Education to Rural Population		Definition of Educational Objectives						
	Positive	Negative	Domesticating	Grinding in Basics		Information Transmission	Functional Instruction	Local	Out-sider
Channigap-panapalya	-	2	2	-	-	-	-	2	Single-teacher school (different teachers at different points of time in one year)
Hindisagere	1	-	-	-	1	-	-	1	Single-teacher (same teacher throughout the year)
Yalanadu	7	-	-	-	1	6	7	-	Multi-teacher (single class single-teacher)
Balanapalya	2	-	-	1	-	1	1	1	Single-teacher school (different teachers at different points of time)

Contd...

Contd...	3	3	4	1	1	-	3	3	Multi-teacher (no. of teachers and no. of standards unevenly matched)
Areyur	3	3	4	1	1	-	3	3	Multi-teacher (no. of teachers and no. of standards unevenly matched)
Kempanahalli	5	-	-	-	1	4	5	-	Multi-teacher school (one class one-teacher except for I and II Std.)
Borasandra	-	3	3	-	-	-	-	3	Multi-teacher (no. of teachers and no. of standards unevenly matched)
Hodalur	-	3	3	-	-	-	-	3	Multi-teacher (no. of teachers and no. of standards unevenly matched)
Brahmasandra	2	3	2	2	1	-	1	4	Multi-teacher (no. of teachers and no. of standards unevenly matched)
Total	57.14	42.86	42.86	11.43	14.29	31.43	48.57	51.43	
(in %)	(20)	(15)	(15)	(4)	(5)	(11)	(17)	(18)	

* Figures in parentheses refer to the actual numbers

(MLL) achievement tests meant for Standards II, III and IV should be administered to students of Standards V, VI and VII respectively. He said, "At least, there is some teaching carried out for the higher classes while there is practically no teaching for the lower classes (I to IV)".

- (f) The headmaster expressed that with the problem of shortage of teachers, preference was given to teaching the upper primary classes since they had to go to the high school. When his attention was drawn to the plight of the lower primary classes, (where students were left to fend for themselves), he rationalised, "Most of the houses have elders who are educated and they teach at home". When further probed about the first generation learners he said, "It is not possible to teach everyone with a high pupil-teacher ratio. This is the best we can do".

Using these categories, teachers in different villages are classified in Chart 2 along with their place of residence. It may be noted from the Chart that teachers' staying in the village in which the school is located invariably have positive orientation towards education and students as compared with those who commute on a daily basis.

Having examined the individual teacher orientation on the two dimensions, i.e., (i) the mind-set regarding the meaning of education to the rural population, and (ii) the definition of educational objectives, it would be worthwhile to examine the overall picture of the total sample presented. Chart 3 gives the percentage distribution of the total rural teachers with respect to the above two dimensions along with the place of residence.

School-Community Relationship

School-community relationship (SCR) includes the perception (or expressed opinions) of the teachers, in general, and the headmaster, in particular. The perception mainly centres around their association with the community. The headmaster is considered as a pivot in initiating as well as maintaining the school community interaction. The second aspect of the SCR is the expressed views of the community regarding the functioning of the school as well as teachers. The School Betterment Committee (SBC) is seen as a

Chart 3
Categories of Educational Transactions

<i>Category</i>	<i>Organisation/Logical Phases</i>	<i>Direction/Supervision</i>	<i>Student Activity</i>	<i>Teacher Initiated Pupil Participation</i>	<i>Implied Purpose</i>
I	Unstructured; absence of logical phases in relation to educational objectives	No specific task set or supervised	Generally non-educational and if educational, emerges out of the impulse of teacher's instruction Not pursued by all No feedback for pursuing students	Absence of teacher initiation for student participation	Caretaking, domesticating, herding and preventing students from getting into mischief
II	Poorly structured; collapse of logical phases in relation to educational objectives into one	Specific task set; absence of monitoring	Restricted to learning of basics by mechanical repetition of tracing alphabets/numbers, multiplication tables and copy writing lessons	Weak teacher initiation reduced to mechanical nature	Provide basic skills of 3 Rs
III	Well structured; presence of logical phases in relation to educational objectives	Specific task set with poor monitoring	Ritualistic receiving of information (restricted to text books); memory based responses at evaluative phase	Selective participation (decided by teacher) at the evaluation phase	Transmitting book information geared to average performance in the terminal examination
IV	Highly structured; distinct logical phases in relation to educational objectives	Specific task set; well monitored	Varied scope for development of higher order of learning	Equitable distribution of pupil participation across students and phases	Relating educational activity to real life situations to make education more functional

means by which the SCR could be fostered. The practical operation of this committee constitutes the third aspect contributing to school-community relationship. The fourth aspect is the extent to which the school draws from the community resources in terms of finance, voluntary services, etc.

Considering the above operational definition of SCR, Yalanadu, Kempanahalli and Balanapalya show a similar pattern. The first two schools have drawn their teachers from the local community who have long years of service in the same school. The teachers of Yalanadu and Kempanahalli express pride to be associated with the school. The third village, Balanapalya underwent a transition from a single teacher school to two teacher school and back to a single teacher school in one academic year. The third teacher, (this single teacher school had three change of teachers in one academic year) however, resides in a village that is only 2 kms away from the school.

The SBC is very active and meets regularly. However, its functions vary among these three schools: For example, in Yalanadu, the contribution made by the community is substantial and is used for improving the school. A major share of the contribution has been diverted for the construction of additional rooms. A part of this fund is also used to buy prizes for the various competitions held throughout the year, while at Kempanahalli, the SBC is a tool to mobilise public support for starting a government high school in the village. Matters relating to the issue of green cards to students (for procurement of free textbooks) have also been taken up. The third teacher in Balanapalya takes considerable interest to revive the SBC and has made it operational. With his leadership qualities, this teacher has been able to build the SBC funds to an appreciable amount. (The long pending payment of electricity bill of Rs 30 has been cleared off). Minor repair work and maintenance of the school building have been taken up with the help of the funds.

Teachers from Yalanadu and Kempanahalli identify themselves with the community. Initiative on the part of teachers has been seen in securing the green cards for deserving candidates. This entitles them for free books (Kempanahalli). Details regarding the availability of various scholarships have been collected by the head-

master during his official visits to the AEO's office. The responsibility of identifying the students and getting the forms filled has been jointly taken up by the team of teachers (Yalanadu). The excellent relationship the school and community shares, facilitates the smooth operation of community development programmes like vaccination. The interaction of the school with the health workers, Rotary Club members, Mandal Panchayats and Education Department contributes to the growth of the school in Yalanadu.

The school at Kempanahalli has taken advantage of the good community relationship it has, to solve the problem of attendance. Students rarely stay away from school due to the reposed faith of the community in the functioning of the school. Parents though poor take interest in providing their children with the necessary learning materials. The public in both these villages hail the performance and commitment of the teachers, who, according to them, have been doing their best.

In spite of it having an operational SBC, Balanapalya occupies the lowest position, if the three schools with better SCR are ranked. The school-community relationship is viewed, taking into account the initial period (this teacher was working in the school for the past three years) and the final period of the academic year. The interim period, which saw the replacement of the first teacher by two teachers who commuted from Tumkur, is overlooked. These teachers who treated their stay in the school as temporary, did not pay any attention to SCR. During the period of the first teacher, genuine concern has been shown towards the regular attendance of children. Owing to the good rapport, she had with the villagers, she has been able to coax them to send their wards to school. The villagers have shouldered the responsibility of arranging alternate transport on days the regular bus service was not available. On days when the teacher is not present, the Anganwadi worker keeps the children engaged up to noon (one part of the school building is occupied by the Anganwadi). The teacher present in the school during the final period of the academic year is positive regarding the progress of the students. He stresses the importance of hygiene among students. The villagers express satisfaction about the overall functioning of the school except dur-

ing the interim period.

The second category of school-community relationship comprises of four villages, namely: Channigappanapalya, Hindisagere, Brahmasandra and Areyur.

Both the schools, Channigappanapalya and Hindisagere, are single teacher schools. The teachers are not drawn from the local community. Brahmasandra and Areyur have only one and two teachers residing in the village respectively. The teachers do not show any particular affinity to the village community. They treat their profession as 'a paid job' and do not show genuine concern about the overall educational progress.

The SBC in all these schools are constituted and hold meetings irregularly. These meetings are mandatory and not directed to any educational cause. Meagre contribution as slates, pencils are made by the villagers to be distributed as prizes during competitions held annually in Brahmasandra. The SBC meetings are used as a floor for mud slinging and infighting among rival groups that have caste/party affiliation. Membership to the SBC is more a prestige issue rather than service-oriented. The school at Brahmasandra has a large playground, and a huge eucalyptus tree standing in front of the building. The school teachers want to sell it and use the money to construct an additional room. The political tussles and incoherent functioning of the SBC has seen the problem persisting for the past 6-8 years. Fear of recognition going to the rival group is the reason attributed for the tree remaining there, as a threat to the life of students. On similar lines the voluntary services of the local trained graduates to conduct classes have been stopped.

Most of the teachers of the villages that fall into this category do not bother to visit the village other than for official purposes. However, these visits are utilised to get to know the village community better. The teachers are nevertheless courteous to the villagers who visit the school. The school-community relationship could be aptly termed as superficial though it appears to be cordial to outsiders. The community members are passive and do not interfere in the regular functioning of the school in Hindisagere, Areyur, Channigappanapalya and Brahmasandra.

In Channigappanapalya, the SCR thrives in the school campus with a number of villagers visiting the school during the day.

These villagers are usually from the affluent families and indulge in gossip. The teachers at Areyur attribute the indifference of parents, in particular, and community, at large, to the discontinuity of the mid-day meals. The villagers of Areyur though passive do not take it lightly when children are punished severely. On one such occasion, the teacher was made to apologise.

The villagers are led to believe that it is impossible for a single teacher to have a stringent schedule. The community is appeased by the teacher through providing old textbooks to students and allowing the school building to be used for community purposes. The community purposes include functions like marriage, special family *poojas*, etc. There are a few unemployed trained graduates in Areyur, Brahmasandra and Channigappanapalya. The schools in these villages are unable to draw their services in spite of facing the problem of acute shortage of teachers.

The last two schools located in Borasandra and Hodalur fall into the third category of school-community relationship. The teachers (specifically the headmaster) express aversion to be associated with the village, in general, and school, in particular. They resent their stay in the school. The teachers working in the school at Hodalur (except one who is a local resident) do not visit the village even for census. This is usually entrusted to the local teacher who has cordial relationship with the village community. These teachers admit ignorance about any information on the village. They resent the community, and in turn, the government, for reducing the school into a 'baby-sitting centre' by the policy of voluntary admission. The teachers are outrightly rude to parents who visit the school. In one such instance, a parent complained to the teacher about the truant behaviour shown by her ward. The teacher retorted saying that his responsibility for the child was confined only within the school campus (Borasandra). The only time the parents visit the school at Hodalur is for the Transfer Certificates (TC) of their children. These parents are made to visit the school several times before the TCs are issued.

The teachers in these schools are not troubled with the fluctuations in attendance of students. While the fall in attendance is attributed to public functions like marriages and village festivals in Hodalur, the agricultural season is also believed to be one of the

reasons for the fall in attendance in Borasandra.

The SBC exists only on paper. No scheduled meetings were held during the academic year of observation. However, Hodalur has one donor who is approached on a yearly basis. The money nevertheless was diverted for buying of desks, tables and cupboards for the teachers rather than for improving the educational facilities related to student needs.

To sum up, healthy school-community relationship is characterised by a sense of belonging to the school and the village. The SBC is active and operational and the school draws from the community resources. Yalanadu, Kempanahalli and Balanapalya belong to this category.

Superficial School-Community Relationship

It is the second category characterised by teachers' indifference (whether associated or not with the school and village). The SBC, though constituted, holds irregular meetings although mandatory. The school has not actively mobilised major community resources. Hindisagere, Brahmasandra, Areyur and Channigappanapalya belong to this category.

Hostile School-Community Relationship

This is characterised by the teachers expressing open displeasure to be associated with the school-village. The SBC is constituted only on paper with no meetings held. These schools do not draw from community resources. Borasandra and Hodalur belong to this group.

Average Length of the School Day

One of the important factors affecting educational achievements and quality of education is the average length of a school day. Even though the Department of Public Instruction specifies, on an average, five hours for a school working day, all the schools observed do not work for five hours. The length of the school day is significant for the calculation of the active instructional time that has a direct bearing on educational output in terms of student atten-

dance and achievement. This measure cannot be captured by any data gathering technique other than observation. Table 5.1 gives the picture of the length of the school day expressed in hours for each observed school.

Table 5.1
*Distribution of Schools in Relation to the
Average Length of the School Day*

<i>Name of the Village</i>	<i>No. of Observation Days</i>	<i>No. of Days the School Worked</i>	<i>Total No. of Working Hours</i>	<i>Average Length of the School Day (in minutes)</i>
Channigappanapalya	16	5	10	37.50 mins.
Hindisagere	16	12	48	180.00 mins.
Yalanadu	16	16	80	300.00 mins.
Balanapalya	16	6	15	56.25 mins.
Areyur	16	16	51.5	193.13 mins.
Kempanahalli	16	14	70	262.50 mins.
Borasandra	16	7	12	45.00 mins.
Hodalur	16	8	33	124.15 mins.
Brahmasandra	16	12	38	142.50 mins.

According to the observation schedule, each school has been observed in four cycles for four days each by dividing the school year into four terms. While calculating the average length of the day, the school time lost because of the closure of schools for various reasons and the time lost during the working day because of the late opening or early closing of the school day have been considered.

It may be noted from Table 5.1 that the range is extremely wide, with the length of the school day in Channigappanapalya being less than 40 minutes per day, on an average to 5 hours, in Yalanadu and Kempanahalli. The length of the school day is closely associated with the number of teachers working in the school with the number of standards taught. Only Yalanadu and Kempanahalli worked according to the prescribed norms and both

of them have single grade teaching (one teacher engaging one class). Channigappanapalya, Hindisagere, and Balanapalya are single teacher schools. The average length of the school day in these schools are respectively 38 minutes, 3 hours and 56 minutes. The remaining three schools, namely, Areyur, Hodalur and Brahmasandra have more than one teacher but normally the teachers and the standards are not evenly matched. The working hours of these schools are respectively 3 hours 13 minutes; 2 hours 4 minutes; and 2 hours 23 minutes.

The table indicates that, to some extent, the number of teachers matching the number of standards contributes towards carrying out activities according to the norms. Even among single teacher schools, there is wide fluctuation in the length of school day. This is likely to be the result of lack of commitment of the teachers. The school-community interaction determines the actual length of the school day.

Teacher-Student Interaction

The teacher-student interaction (TSI) is identified as a crucial contributor to the quality of schooling. *The International Dictionary of Education* defines TSI as "Mutual or reciprocal influences, specially social and emotional between teacher and pupil". The nature of TSI varies and depends on the individual teacher, pupils and the specific educational context. However, in present circumstances, TSI is viewed treating school as a unit. It is observed that the TSI is, largely, a part of the institutional ethos. From the observation records, when the teacher-student interaction was examined, three broad patterns of TSI emerge. One is characterised by general, pervasive and positive TSI. The second is characterised by differences among teachers in dealing with the students. In other words, these teachers demonstrate positive orientation in the interaction with students on a selective basis. The third pattern is characterised by negative or hostile reaction to the students. Each of these categories is illustrated below.

Cordial Teacher-Student Interaction

This is operationally defined as a situation characterised by a posi-

tive mutual or reciprocal influence between the teachers and students. This is evident most often in the school activities. It is either verbally expressed or inferred by the behaviour of teachers as well as that of the students. Two of the schools, namely, Yalanadu and Kempanahalli are classified into this type. The students of these schools hold their teachers in high esteem. Teachers, in turn, show genuine concern regarding the welfare of students. Teacher initiative is evident in the procurement of free textbooks given by the Public Distribution System. Encouragement of students is evident in most of the classroom activities. Almost all students are seen participating in school activities. Slow learners are drawn into discussions by directing questions at them and helping them to respond. In spite of greater pupil strength the teachers in these schools address students by name. Special classes are a feature of these schools. Clarification of doubts inside and outside the classroom is seen on more than one occasion during the observation. These schools have frequent organisation of co-curricular activities. These activities are organised by the class teacher and students on a weekly basis that paves the way for improved teacher-student interaction in the positive direction.

Teacher-Student Interaction Specific to Student Characteristics

The second category of teacher-student interaction is differential depending on the specific characteristics of pupils. These characteristics are either, the varying levels of intelligence or caste affiliation. Areyur, Channigappanapalya, Hindisagere, Balanapalya and Brahmasandra fall under this category. The teacher-student interaction varies in Areyur and Brahmasandra (3 of the teachers) depending on the level of intelligence of students. Teachers in Channigappanapalya, Hindisagere and one of the teachers in Brahmasandra show varying teacher-student interaction defined by the caste affiliation of the students. In particular, the SC/ST students are openly discriminated against students who come from the other castes. For instance:

1. The teacher of Channigappanapalya had strong caste feelings that were concealed. He was seen pejoratively remarking about a student belonging to 'Achari' caste (either carpenter or

goldsmith) as “why do you come to the school? It is better you stay at home and learn your occupation. Education will be of no help to you”. He later revealed that this village has only Lingayats except for a stray family or two who belonged to the lower castes.

2. The teacher at Hindisagere rarely resorted to corporal punishment. Only on three occasions he was seen losing his temper and this was unleashed on a particular student of Standard IV. This boy was not regular in attending the school. On enquiry, the boy said that he abstained from class fearing physical abuse by the teacher. This boy belonged to the scheduled caste.
3. Teacher 2 of Brahmasandra had strong caste feelings that was not concealed even in the presence of strangers. He was particular that no lower caste student touched his drinking water. In his class, he had the SC students seated in a different row and did not pay any attention to them. If any attention was paid to them it was only to abuse them physically or verbally.

Hostile Teacher-Student Interaction

This is characterised by teachers (of particular schools) who resort to physical or verbal abuse at the slightest provocation. Teachers instil fear among students. Students of these schools are trained to accept the teachers' words as the gospel truth. Irregularities in attendance of students (a distinctive feature of schools that fall under this category) are not questioned. Teachers pay little attention to this problem. Borasandra and Hodalur are classified under this type. For example:

1. In Hodalur, the teachers openly expressed indifference to the students' academic progress. The teachers lacked subject proficiency and resorted to beating the students when they sought clarifications.
2. The teachers in Borasandra constantly referred to the students as 'kadu jana' (people from the jungle). They constantly belittled students and led them to believe that they were good for nothing. No concern was shown over the variations of student attendance that was taken for granted.

Variation of Students' Attendance Across the Academic Year

It may be recalled that the observation of the schools followed the time sampling procedure. As per the schedule, each cycle has four continuous observation days with respect to each school. The entire schedule has four such cycles conducted during the months June/July, August/September, November/December and January/February during the academic year 1991-92. The actual attendance percentage with reference to every standard has been noted down during each of these visits. The average attendance for each level of schooling, i.e., lower primary level and upper primary level are calculated for all the four cycles separately. The above exercise is employed individually for the nine schools observed.

Table 5.2
Percentage Distribution of Attendance of Students on Working Days Among Villages in Different Cycles, and Levels of Schooling

Name of the Village	I Cycle		II Cycle		III Cycle		IV Cycle	
	LPS	UPS	LPS	UPS	LPS	UPS	LPS	UPS
Channigappanapalya	68.45	NA	72.49	NA	NW	NA	86.77	NA
Hindisagere	86.46	NA	NW	NA	85.94	NA	97.68	NA
Yalanadu	92.80	95.13	90.31	97.99	90.84	99.04	95.13	98.85
Balana Palya	92.71	NA	NW	NA	83.89	NA	81.11	NA
Areyur	47.08	63.96	50.14	50.75	73.98	81.05	81.84	93.71
Kempanahalli	82.57	95.13	81.40	97.99	88.39	99.04	93.19	98.85
Borasandra	64.85	65.95	40.03	44.77	27.54	13.34	43.75	36.15
Hodalur	71.82	86.67	41.36	54.33	NW	NW	92.57	97.50
Brahmasandra	74.28	84.66	86.65	96.07	77.34	78.9	86.15	94.72

Notes: NA = Not applicable
NW = Not working

From Table 5.2, it is observed that the variation in attendance at different points of time is negligible in Yalanadu and Kempanahalli. The other seven schools show remarkable variation in the attendance of students at different points of time. This may be

since the schools located in the above two villages have single class, single teacher context. The remaining seven schools have multi-grade teaching context. Apart from this, most of the teachers of Yalanadu and Kempanahalli have a positive attitude with good school community-relationship as well as cordial teacher-student interaction.

Another point to be noted is that except for Borasandra¹, attendance of students improve towards the end of the year (IV cycle) for all the schools.

Educational Transactions

Categorisation of educational transactions observed is based on the following four aspects, namely:

- (a) structural dimension of the learning episode;
- (b) directional and supervisory nature of the classroom activity;
- (c) nature and extent of student participation; and
- (d) purpose served in relation to the learning episode.

The structural dimension refers to the nature of the logical arrangement of an instance of instruction (i.e., the introduction, development and evaluation) in relation to the educational objectives set by the teacher. The second aspect examines whether specific directions are set for both student and teacher activity and if so, how far pursued. The third aspect is the nature and extent of student participation at the initiation of the teacher. It consists of: (i) non-participation²; (ii) student participation restricted to repetitive rote learning leading to memorisation; (iii) students reduced to passive recipients of information³ with skeletal participation of students for evaluative purposes; and (iv) maximum participation where there is constant active interaction between teacher and students. The fourth aspect is to examine if the learning activity has resulted in actual learning outcome for which the activity had been designed. The field notes yielded a total number of 165 learning episodes.

The detailed descriptions of the classroom instructions observed during the fieldwork have been examined keeping the above aspects in mind and each episode has been classified. In the

process, four major categories of educational transactions emerge. The characteristics of the four categories are given in Chart 3.

Categories of Educational Transactions

Domesticating/Sheperding

In the first category, the learning episode is unstructured and the logical arrangement of the learning activities is absent in relation to the educational objectives. No specific direction is set both for the students as well as teacher activities. Activities in general are non-educational in nature or otherwise, emerge out of impulsive teacher instructions. Not all students follow the instruction and even those who comply with the instructions do it without any feedback from the teacher. Student activity, in general, is not directed nor monitored. The students at large indulge in activities of their choice. Without specific educational activities the question of participation does not arise. Hence, this is considered as an extreme form of non-participation. The basic function implied is to 'baby-sit' or prevent children getting into mischief. The role of the teacher appears to be that of a shepherd. This mode of teaching is labeled as shepherding/domesticating. Fifty-four learning episodes out of the total number have been classified under this category.

The following are some of the representative excerpts of domesticating/shepherding category of educational transaction:

- (a) The students belonging to the other standards (other than which the teacher was addressing) were not assigned any specific task. Students were seen talking, laughing and some times fighting among themselves. Some of them were seen doing nothing except gazing blankly for a considerable length of time.
- (b) In the adjacent room, the headmaster was seen doing some official work, the students were not given any task. Occasionally, the headmaster raised his voice to reduce the noise made by the children. Students in this class were seen capable of spending the whole day in the classroom without any kind of reading or writing work. Talking among themselves, fighting and complaining to the teacher about other students

were the main activities of the students.

- (c) Some students of Standard I wrote the alphabets and got it corrected by one teacher. Students of other classes were seen engaged in written work on their own accord. The written matter ranged from alphabets, multiplication tables to copying of Kannada lessons in their notebooks. Routine ticks were marked by the teacher in the students' books without checking them for any errors committed by the students. The students continued to write as long as they were interested.
- (d) The deputed class leaders and the available teacher were engaged in the exercise of reducing the noise made by the students. Frequent verbal and physical abusing of students were resorted to by the teachers as well as leaders to maintain silence in the name of discipline.
- (e) A few students of Standard IV wrote on their own accord. No directions were given for the written work. The teacher acknowledges the written work in the form of marking a tick. Students were often reprimanded for making noise.
- (f) During the subsequent day of the observation, students of Standard I as usual were engaged in overwriting of alphabets. For some time the students were heard reading the alphabets loudly together. All the other classes were engaged in reading, writing or wasting time⁴ (left to the discretion of individual students). The activities of the students were neither directed nor supervised. The available teachers alternated between occasional peeping into the classroom⁵. The teachers were having an open argument regarding the allotment of standards and subjects.
- (g) Two new teachers had replaced the previous teacher, students were given written work of copying a lesson of their choice into their notebooks/slates, while the teachers indulged in gossips.
- (h) On one day, (I cycle) no classes were taken during the entire forenoon for the Standard IV. However, all students were seen engaged in some written work assigned by the headmaster. The class leader was deputed to ensure that all students were doing the assigned work. The students were expected to do the work without making noise. The headmaster frequented the

- class to see that the students were engaged in the given activity.
- (i) On the first day of the observation, the mathematics lesson was about teaching of the signs greater than ($>$) and lesser than ($<$) to students of Standard IV. The teacher wrote the symbols on the board and gave examples. The symbols were retained on the board for students reference. A set of problems were given for the students to work out.
 - (j) During the second cycle also, there were no lessons taken on the first day. Instead, students were reprimanded when they made noise.
 - (k) The next day, students were permitted to write anything. Few of them were engaged in writing tables or lessons while a majority of them were found talking. The mistakes committed by students were not checked while the teacher was correcting the written work, instead, it was performed as a mechanical exercise. When the students became too noisy, the teacher resorted to beating.
 - (l) There were no lessons taught, except for a science lesson in Standard VI. Standard I to IV were supervised by the headmaster and a senior master. These students were instructed to write anything that they wanted without talking.

The above illustrations are not exhaustive, but only illustrative. They show a conspicuous absence of both organisation and logical phases in introduction, development and evaluation in relation to the educational objectives. It also becomes clear, that no specific tasks are assigned to students and hence, the question of supervision does not arise. The classroom activity that is left to the discretion of the students is generally non-educational like talking, quarreling, complaining to the teacher and simply/blankly gazing at space⁶. Some students are seen writing on their own accord or owing to the instructions of the teacher for a short period of time without any feedback. The main purpose of education about this type of educational transactions is to take care or herding the students and preventing them from getting into mischief. This is either expressed⁷ or inferred⁸ from teacher behaviour in the respective episodes. Students are retained within the four walls and expected to keep quiet in the name of discipline. Activities similar to the above type are classified in this category.

Grinding in Basics

In the second category of educational transactions, the bulk of the learning episodes is partly structured. The educational objective set is to provide basic skills of 3Rs but the logical steps of the learning activity in relation to the educational objectives are merged into one. The learning activity takes a mechanical form rather than an educational dimension. Student activities consist of: (i) tracing the alphabets/numbers on the slate; (ii) writing of words; (iii) multiplication tables; and (iv) oral recitation of alphabets/multiplication tables, poems, etc. All the above activities are to be repeated a number of times to ensure memorisation. The learning activity is in the form of setting specific tasks and instructing students to pursue them. No effort is made to monitor the student activity. While some students pursue the task, many of them do not, except for the initial momentum. Even those who pursue do not sustain the activity for the entire period. Student participation lacks motivation and is reduced to a mechanical exercise. Repetition forms the basis of participation either at the individual level (mechanical tracing or copy writing) or *en masse* that culminates into rote learning. The primary function implied is to provide basic skills of reading, writing and arithmetic. This mode of learning can be labeled as 'grinding in basics'. Forty-seven learning episodes out of the total number have been classified under this category. The following excerpts are typical illustrations:

- (a) Students of Standard I + II were made to write alphabets and multiplication tables alternatively. The teacher wrote the alphabets for a few students of Standard I. The students were instructed to trace the alphabet several times. The teacher did not ensure that all students were doing this particular activity. More than 75 per cent of the students had not written anything for the entire day.
- (b) Oral recitation of alphabets by the students of Standard I was conducted for 15 minutes.
- (c) In Standard II, the lesson was being read by the class leader aloud. The students were instructed to repeat after the leader line by line.
- (d) The teacher identified at least 6 students belonging to Standard III who were unable to read Kannada. These students were

able to write the alphabets sequentially through the process of repeated writing as instructed by the teacher. They were unable to distinguish one alphabet from the other when asked at random. The teacher was unable to ascertain exactly where the problem lay. She pleaded her inability to help these students.

- (e) Students of Standard II were made to read a Kannada lesson. This was immediately followed by the teacher asking the students to write the lesson.
- (f) Written work in the form of multiplication tables was given to students of Standards III and IV. If the students completed learning the tables they were expected to go up to the teacher and repeat the tables by memory. If they made no mistake, they were asked to proceed with the tables of the next number. If errors were committed, they were asked to write the same numbers multiplication tables repeatedly till they memorised it.
- (g) Students of Standard I were instructed to trace an alphabet that is written by the teacher. This process was repeated till they learnt to write the alphabet on their own.
- (h) Then the teacher asked students of Standard III to write all the multiplication tables up to 12.
- (i) Students of Standard I were instructed to overwrite alphabets, while students of Standard II were asked to write a few words ten times each. Having given written work to all the students, the teacher engaged himself in discussion with the researcher and simultaneously updated the school records.
- (j) Students of Standards III and IV were given the task of copying a specific lesson from their respective language textbooks into their note books. Students were let off to play in the afternoon.
- (k) The teacher recited the poem for Standard II. The students repeated the poem line after line. This was repeated three times. Later, each student took the role of the teacher to recite the poem. The other students were made to repeat line after line. After this exercise for more than one hour, the students were instructed to copy the poem into their note books/slates.
- (l) At the beginning of the day, a Kannada lesson was being

taught for Standards IV and V respectively. The teaching method was the same as the previous one. The passage was read by the teacher. The reading was followed by a brief explanation of about four lines. Difficult words were underlined and students were instructed to write each word 5 times. This written work was not supervised as the teacher left the class immediately.

- (m) As a routine, alphabets were written on the blackboard in Standard I. One student read the alphabets aloud, while the other students repeated after him. Later, the students were asked to write the alphabets 5 times each. The teacher supervised and helped students in writing the alphabets correctly.
- (n) Dictation was given to check the spelling ability of the students. Students were later asked to write the spellings of the mis-spelt words 25 times.
- (o) In the afternoon session, the students of Standards I and II were involved in writing of numbers and multiplication tables.
- (p) Students of Standard I were asked to copy a Kannada lesson from the text into their slate.
- (q) Students of Standard II were asked to write multiplication tables. The written work of the students was corrected by the teacher with a tick, without ensuring that the multiplication tables written was correct. The teacher asked the students of Standard I to trace the alphabets.
- (r) Dictation was given to check the spelling ability of the students.
- (s) In the afternoon session, the students of Standards I and II were involved in writing numbers and multiplication tables.
- (t) Students of Standard I were asked to copy a Kannada lesson from the text into their slate.
- (u) Students of Standard II were asked to write multiplication tables which were later corrected by the teacher with mechanical ticks.

All the above illustrations are characterised by poorly structured learning episodes and a collapse of logical phases into one in relation to educational objectives. This is observed because the educational objectives are narrowly defined and restricted to the

attainment of basic skills. The basic skills refer to reading, writing and arithmetic. Episodes under this category appear to be single phased. Though setting up of specific tasks is of prime importance in this category of Educational Transaction, pursuit is left to the choice of students. Feedback is not provided to the few students who are pursuing the task on several occasions⁹. Hence, even with direction set, the learning activities are not monitored. The classroom activity centres around the mastery of basic skills through mechanical motions. Instances of tracing alphabets and numbers¹⁰; multiplication tables¹¹; oral recitation of alphabets and lessons¹²; activities oriented towards mastery of spellings¹³ and copy writing are the range of activities. All the above listed activities are performed in a repeated fashion. Pupil participation initiated by the teacher both at the individual level and collective level¹⁴ (*enmass*) are mechanical in nature. The implied purpose of education in relation to this type of educational transactions is to provide basic skills of reading, writing and arithmetic by rote learning. Textbooks rarely make their appearances in this kind of transaction. Activities given by the teacher to attain the goals are arbitrary. In situations where textbooks are used, they are reduced to instruments for providing only basic skills¹⁵.

Information Transmission

The third category is characterised by well-structured learning episodes. Logical arrangement related to defined educational objective is seen in the form of demarcated introduction, development and evaluation phases. The method of teaching is uniform and is considered to be 'one best way of teaching'. Teaching is generally oriented to the needs of the average students. Students of different learning levels are treated alike. Teaching is restricted to the textbook alone. Specific tasks are set and pursued by a greater number of students. Skeletal supervision is maintained to ensure that the students endure the task. However, even in this case a selected few show the endurance. Student participation is characterised by passive listening and selective¹⁶ student responses. Active student participation is seen only at the evaluative phase. The questions posed by the teacher test memory and not any higher order of learning. The prime function of teaching is preparation of students

for average performance in the terminal examination. Transmitting information (restricted to the textbook) to the students is the method adopted for the above purpose. Hence, this mode of teaching is labelled as 'Information Transmission'. Among the total number of learning episodes, 26 belong to this category. The following excerpts are distinctive of this category.

- (a) A science lesson about the 'Digestive System of Man' was being taught in Standard IV. The classroom teaching was more of a narration with hardly any student participation. A model was being used for the benefit of the observer.
- (b) In Standard IV, the teacher revised the concept of "greater than and lesser than" because there were two students who were absent in the previous class. Few problems were given for drill exercises. Yet, students displayed confusion in distinguishing the symbols ($>$ and $<$). The teacher was unable to discern the actual difficulty. The teacher used neither an alternative method nor gave a simpler explanation. The doubts of the students remained unclarified.
- (c) The Standard III students were given problems on division to be solved. Although the teacher's explanation (which had a set pattern) was clear enough, the students did not follow the explanation. It was rather difficult to find out if the concept itself was beyond their perception or the explanation was insufficient. The students were not taught to work out the problems in steps. The teacher was unaware or pretends to be so, about the fact that students were not able to understand completely. The teacher proceeded to the next concept of pictorial representation of division. Figures were drawn on the board and the concept of fraction was introduced. Shaded and coloured figures were drawn on the board for illustrations. Graded problems were given to be solved.
- (d) The science and social studies lesson was taught to students of Standards III and IV one after the other. The method followed for both the lessons was the same. The lesson began with the teacher reading the lesson aloud. This was followed by a brief explanation. Meanings of difficult words were given. A few questions were asked with the help of which the Blackboard Summary (BBS) was developed. The students were instructed

- to copy the summary into their notebooks.
- (e) A Maths lesson was being taught in Standard IV. Short introductory questions were asked to test the previous knowledge of students. The teacher explained the concept of addition of fractions. The explanation was comprehensive. However, there were a few students who did not follow as the teacher was a little fast. Overlooking the difficulty of these students, a set of problems was given for drill exercise. Later, the teacher solved the problem on the board with the help of a few over-enthusiastic students.
 - (f) In Standard III, a Kannada lesson was being taught. At first, questions were asked based on the previous day's class. Only one student participated in the question-answer session. This particular student was asked to write the answer on the blackboard. The other students were mere spectators. After this the teacher read the passage. The students were asked to copy the answer into their note books.
 - (g) A Kannada lesson was being taught to the students of Standard IV. The students of Standard III were also asked to listen, while the lesson was in progress. During the lesson the differences between 'O' and 'Ba' the Kannada alphabets, were highlighted. Punctuation was briefly discussed. The blackboard summary was developed with the help of the students of Standard IV. Difficult words were written on the blackboard. They were split and their formation explained. Students were asked questions based on the blackboard summary. Students were instructed to answer in complete sentences. Later, they were asked to copy the summary into their notebooks/slates.
 - (h) A mathematics lesson was being taught to Standard IV. True or false questions were asked which was directly picked up from the textbook. The students were not applying their minds, and it was a futile exercise in guess work. The problems were explained by the teacher fairly well. However, only a few intelligent students understood the problems. The teacher was unaware of the students' difficulty.

Unlike the previous two categories, the educational transactions classified under Information Transmission type are well-structured. It shows the presence of logical phases of introduc-

tion, development and evaluation in relation to the educational objectives. Specific tasks are set by the teacher. Though, all students show initial momentum, the task remains incomplete except in the case of a few students. Students who are both interested and capable of completing the task are given feedback while slow learners are overlooked¹⁷. The student activity is dominated by passive listening¹⁸. A selected few students monopolise the student participation largely restricted to question-answer session, which is distributed in the introduction and evaluation.

The questions are information based and most often directly taken from the textbooks. The implied purpose of education is transmission of information in a ritualistic way. No variation is seen both in the teacher and students' activities as the method adopted is 'one best way of teaching'. Preparing students for average performance in the terminal examination is the goal pursued by the teacher. This is inferred when selective topics are taught, and the programme of work is strictly not followed. Activities similar to the above type are classified into this category.

Functional Instruction

The last category that is the highest form of educational transaction is well-structured. The educational objective set is to develop higher order of learning though not completely/efficiently achieved. The different phases of introduction, development and evaluation are demarcated and more rigorously followed than the previous category. There is an attempt made by teachers to vary teaching methods. Student activity is varied and consists of comprehending when a passage is being read; answering questions raised by teachers; observing experiments; reading maps and charts; comparing, analysing and drawing inferences. Equitable participation of students is realised by constant encouragement given by the teacher. Slow learners are particularly drawn into classroom discussions. Teachers invariably give evaluation exercises that are followed up. Specific direction is set and students are individually monitored to ensure the endurance of almost all students. Student participation is active and spread throughout the three phases of introduction, development and evaluation. Student participation is not confined to a few. Special effort is made to link

the educational objectives to the students' life experiences. Marginal deviations from the prescribed textbooks are used, to accommodate the development of other faculties of learning. Few instances, to cater to different levels of learning are observed. This mode of teaching may be termed as 'Functional Instruction'. Thirty-eight learning episodes out of the total number have been grouped under this category. The following extracts are characteristics of functional instruction.

- (a) In Standard V, the concept of orbits was introduced with the help of a globe. The vertical and horizontal orbits were distinguished with the help of students. The reasons for the occurrence of day and night were discerned. The teacher also explained the concept of poles. The occurrence of day and night was elaborated upon. The relationship between the zones and climatic conditions were analysed. A diagram depicting the different zones and latitudes were drawn on the blackboard. The blackboard summary was developed with the help of students. Student participation was maximum during this stage. Students were made to identify the hot zone and cold zone. Assignments were given. There was scope for the development of the skill of drawing as well as development of a higher order of understanding among children.
- (b) The concept of fraction was introduced to Standard VI with the help of a circle. A familiar example of a house with a mother, two children and a chapathi was used. The students were asked, "how much will each child get, if the mother shared the chapathi equally among the two children?" The students' spontaneous answer was half. The chapathi was pictorially drawn on the board and divided into half. Then the concept of fraction was introduced. Later, the teacher continued to enlist the type of fractions. Examples are given. This is followed by an exercise in addition of fractions. A model problem was worked on the blackboard and explained. A set of graded problems was given. The third problem in this set contained a mixed fraction. The teacher explained to the students the process of conversion of fraction, which helped them to proceed. Discipline was maintained to facilitate student attention.

- (c) A Kannada lesson was in progress in Standard VI. A noteworthy feature in the language class was the simultaneous development of vocabulary, reading, writing, and comprehensive skills. The teacher developed the blackboard summary with the help of students, while they simultaneously noted down the points. For instance, in Standard VI, a passage from the lesson 'Tennali Rama' was being read aloud by the teacher. The mistakes committed by the teacher were pointed out by the students. The teacher did this deliberately to see if the students were paying attention. He later corrected himself and continues to read. This method encouraged active student participation and helped in establishing a rapport between the two. Exercises of loud reading were not restricted to students who read extremely well, but weaker students were also given an opportunity to read. The teacher paid special attention to the weaker students by prompting and encouraging them to read. In a class of hundred students, the teacher knew the students by name. The teacher was able to identify the weaker students and encourage them to respond. He was keen in eliciting responses from them. Mass answering was discouraged and students were trained to answer in turns.
- (d) In Standard III, the teacher was dealing with statement problems in relation to multiplication. A model problem was worked out in sequential steps with the help of students. This was retained on the blackboard. A set of 5 graded problems was given to be solved. This helped students of different learning levels to progress at their pace. This also facilitated the development of problem solving skills. The teacher insisted that the student go through every step while solving the problem. By this method the teacher was able to identify the learning difficulty of the students. The teacher paid individual attention to students as he supervised the written work. Later, the students were given an opportunity to solve the problem on the blackboard. The teacher insisted on statements and sequential steps in solving the problems. Students were corrected during the drill session as well as when they solved the problem on the blackboard. The other students were directed to check to find out where they had gone wrong.

- (e) In the Standard VI, a science lesson was being taught. The teacher began the lesson with certain introductory question that led to the topic of the lesson. Questions were not only memory based but tests the general understanding and application ability. Prompting was resorted to by the teacher to get the correct response. At first, they were asked to give examples of living and non-living things. Later, they were asked to give reasons for classifying things as living or non-living. Finally, the students enlisted the properties of living and non-living things. Thus the differentiation between the two were learnt. The teacher moved on to the sub-topic "Air" with a general question to the class, "What do we need to breathe?". The students replied "Air". Synonyms for air were given (by the teacher). Then the teacher got on to explain about the process of breathing—*inhalation* and *exhalation*. The teacher explained, why it was unhealthy to breathe through the mouth. Then, the elements of air were discussed. One of the elements of air, that is oxygen, was discussed in particular. An experiment was conducted to demonstrate the need of oxygen for burning. He allowed students to participate in conducting the experiment. He asked children to conduct the experiment at home. This experiment served the purpose of developing the skill of observation, reasoning and analysing. The teacher drew parallels between the breathing process and the burning of the candle. Properties of oxygen were discussed and the students were made to sum up all that was taught. The diagram was developed on the blackboard. Later on, students were made to copy the diagram and explain the experiment in their own words. Subsequently, the students were made to read out the answer. The students corrected the answers among themselves by exchanging books with the teacher as a spectator, who helped them in the process.
- (f) During the first cycle in Standard VII, a Biology lesson, "The Digestive System" was being taught. Short introductory questions were asked which helped the teacher to introduce the lesson. A model of the digestive system was used to explain the different parts and their respective functions. Simultaneously, the teacher drew the diagram on the blackboard. Students were helped to find reasons for becoming choked, causes for

indigestion, etc. The teacher developed a tabular representation of the organs, the name, pictorial representation and function. Questions were asked to students to develop the blackboard summary(BBS). This also helped as an evaluative device to discern their understanding. Later on, students were asked to take down the diagram and the BBS. Thus, the teacher provided scope for the development of the skill of drawing. Students were identified at random, to read the BBS loudly. Errors committed were rectified. Assignments as fill-up the blanks and short questions were given.

- (g) An English lesson "The Parts of the Body" was being taught to the students of Standard V. Importance to grammar was given and students were consulted regarding the correct usage of prepositions, articles, etc., during the lesson. Students were taught to answer in full sentences. Individual students were asked to identify the various parts of their body. Although the teacher ensured that most of the students were given an opportunity to participate, only 6 to 8 students responded correctly. This was followed by a spelling exercise, where each student spelt out the word and wrote it on the blackboard. About 50 per cent of the students were able to recognise the English alphabets. Interestingly, the children belonging to the dominant (non-SC) castes performed well.
- (h) The Kannada class was in progress in Standard VI. The names of animals were written on the board with the help of students' participation. The teacher divided the animals into two groups. The students were asked to identify the basis for the classification. The students rightly responded, saying that the first group of animals were domestic, while the second were wild animals. The students were given time to read the passage silently followed by the teacher's explanation. Meanings of difficult words were given. At times, four equivalent words were given for a single word for, e.g., 'dead'. Elaborate explanations were given for certain terms, for, e.g., the teacher gave a detailed description of '10 annas'—a previously used denomination of currency.
- (i) For Standard III, the lesson "School Garden" was being taught in Kannada. Mint seeds were shown to the children for the

first time. Reference to their school garden was made during the lesson. Students were encouraged to cultivate the good habit of developing a garden for the school.

- (j) During explanation (about the different parts of the respiratory system), doubts raised by students were clarified. This led to a lot of discussion initiated by both teacher and students as well.
- (k) The Mathematics teacher had begun his lesson (Standard III) with a question "How many hundreds are there in 1,200?" Then he instructed them to split the number into $1000 + 200$. The students were able to arrive at the answer, i.e., there were twelve hundreds in 1,200. On similar lines, another question was posed to the students—"How many tens were there in 400?" The students were able to answer. A set of problems was given based on the same principle for drill exercise. Sufficient time was given to the students to work out the problems. This was systematically followed by the teacher solving the problem on the blackboard.
- (l) The concept of division was taught to the Standard III. Parallels were drawn from daily life situations (for example, 'if you have ten marbles, how do you share them equally with your friend, how many marbles will each one of you get'?) This was followed by a problem solved by the teacher. Later, some problems were given for the students to solve. However, some students did not work out the problems. The teacher was unable to supervise since he was engaged in teaching some other class. After the first round of teaching, the rest of the time was devoted to supervision. Explanation was repeated when students faced difficulty in solving the problems. Additional exercises were given when they completed the first set of problems.
- (m) During the fourth cycle, the teacher was busy completing the syllabus. The teacher was simultaneously teaching the other classes, when the test was being conducted for one class by the researcher. The teacher made use of illustrations and drew parallels to substantiate his explanation (The lesson 'Cow and the Calf' was being taught). The teacher narrated an illustration from a village scene that was familiar to the students. He elabo-

rated about the affection between the cow and the calf. The students enthusiastically responded since it is a typical scene from village life.

All the above illustrations are distinct by being highly structured. Logical sequence, i.e., introduction, development and evaluation are followed in relation to educational objectives. Specific tasks are assigned and well-monitored. This encourages more number of students to complete the work at hand. Student activity varies. Students are provided opportunity for developing the skill of observation¹⁹, comparing²⁰, analysing, and inferring. Pupil participation is not restricted to a few. It is spread evenly across the learning episode²¹. The implicit function is to make educational experiences more meaningful and receptive. Comparable episodes are tabulated under this type.

Along the direction provided by the above differentiation, the samples of the observed episodes of educational transactions are classified school-wise. Frequencies, thus, obtained are expressed in percentages to compare the variation of the educational transactions among different villages. The figures in parentheses refer to the number of educational transactions with respect to each category.

From Table 5.3, it is seen that in the 'Shepherding/Domesticating' type, Hodalur ranks the highest with 88.89 per cent. In contrast, Yalanadu does not have a single instance. Balanapalya tops the list in the second category of 'Grinding in Basics' with 60 per cent while Hodalur shows the absence of this category. In the third category of Information Transmission, the highest²² and lowest value²³ are Hindisagere and Borasandra/Yalanadu respectively. The range for the Functional Instruction type is between 83.33 to 3.71 per cent. These figures correspond to Yalanadu and Brahmasandra respectively.

Surprisingly, five out of the nine schools observed show the absence of the Functional Instruction category of educational transaction. These five schools are located in Channigappanapalya, Balanapalya, Areyur, Borasandra and Hodalur. It may be noted that Kempanahalli closely follows Yalanadu with a value of 56.52 per cent. The other school is Hindisagere with a value of 15.39 per cent closer to the lower end.

Table 5.3
*Percentage Distribution of Categories of Educational Transactions
Among the Sample Villages*

<i>Name of Village</i>	<i>Domesticating</i>	<i>Grinding in Basics</i>	<i>Information Transmission</i>	<i>Functional Instruction</i>	<i>Total</i>
Channigapanapalya	83.34 (5)	16.66 (1)	-	-	100 (6)
Hindisagere	7.69 (2)	38.46 (10)	38.46 (10)	15.39 (4)	100 (26)
Yalanadu	-	8.33 (2)	8.33 (2)	83.33 (20)	100 (24)
Balanapalya	26.67 (4)	60.0 (9)	13.33 (2)	-	100 (15)
Areyur	60.87 (14)	30.44 (7)	8.7 (2)	-	100 (23)
Kempanahalli	8.7 (2)	17.39 (4)	17.39 (4)	56.52 (13)	100 (23)
Borasandra	75.0 (9)	16.67 (2)	8.33 (1)	-	100 (12)
Hodalur	88.89 (8)	-	11.11 (1)	-	100 (9)
Brahmasandra	37.04 (10)	44.44 (12)	14.81 (4)	3.71 (1)	100 (27)

* Figures in parentheses refer to actual numbers.

Another interesting feature that can be observed is that both these schools at the higher end of the scale have, approximately, single class single teacher context. The remaining seven schools have multi-grade contexts. Most often the teachers are not trained to use a higher type of educational transaction specially in a multi-grade context.

Co-curricular Activities

Most of the rural schools present a sad picture regarding co-curricular activities. Among the nine schools chosen for in-depth study, the trend shows a greater concentration towards the lower

end of the range of co-curricular activities. The organisation of co-curricular activities (CCA) can be broadly classified into the following three categories, namely:

- (a) Absence of any organised co-curricular activities.
- (b) Organised co-curricular activities on an annual basis.
- (c) Well-organised co-curricular activities spread according to schedule throughout the year.

Absence of any Organised Co-curricular Activities

Out of the nine schools observed for in-depth study, five of them fall into this category. In the time-table framed, all the schools follow the same pattern of having the last period allotted for games. Most of these schools let off classes for play between 3.15 p.m. and 5 p.m. Play is generally not supervised and students are left to play on their own accord. Moreover, most teachers go home leaving the children to play.

Annual Organisation of Co-curricular Activities

Three of the schools fall into this category. Play or games are supervised during the beginning of the academic year. The students are prepared for participation at the taluk level and hobli level sports. Apart from this, these schools organise some competitions scheduled on one of the national festival days. Prizes are also distributed. However, CCA of some schools comprise only sports while some others have even literary and cultural competitions. It is surprising to note that one of the schools that has a physical instructor also conducts co-curricular activities on an annual basis. His services are used to maintain discipline in one of the standards that do not have a teacher.

Well-organised Co-curricular Activities Spread as per Schedule Throughout the Year

Only one school comes under this category. The co-curricular activities of this school include the following, namely, reading of news and thought for the day, and sports on a daily basis. Co-curricular activities include organisation of competitions on every

Saturday by each standard with the help of the teacher. The school also celebrates the Ganesh Chaturthi festival spread over a week. Annual elections to student representative bodies are held. The celebrations of National festivals, school day and the village festival are drawn out in detail. The participation of the community is in the form of representing the audience as well as financial contributions. Prizes are distributed for excellence in academics, sports, literary and cultural activities. Special efforts are made by a team of teachers to train students in various competitions. This school has students who have topped both in merit scholarships as well as sports at different levels up to the district level.

Chart 4
Classification of the Schools Based on the Organization of Co-curricular Activities

<i>Category of CCA</i>	<i>Sports/Games</i>	<i>Sports, Literary, Cultural and Academic Related</i>
Absence of any organised CCA (unorganised CCA)	Unsupervised, self-directed games played, depending on the choice of the students.	Unsupervised, self-directed literary, cultural or academic related activities left to students' discretion along with sports.
Organised CCA, usually on an annual basis.	Supervised for a short time, towards preparation of students for inter school and sub-district level.	Supervised for a short time, towards preparation of students for inter-school competitions.
Well-organised CCA spread as per schedule throughout the year.	Organised sports activities spread over a year with regular competitions held at school as well as at sub-district and district levels.	Regular, supervised and organised sports, literary, cultural academic related activities held at school and inter school level.
Absence of CCA	Hodalur Borasandra Hindisagere Channigappana Palya	
Presence of CCA on an annual basis.	Areyur Brahmasandra	Balanapalya Kempnahalli
Presence of CCA on a regular basis.	-	Yalanadu

Chart 4 shows the distribution of schools according to the pattern of co-curricular activities among the above two categories at three levels, namely, sports/games and sports/literary/cultural activities-and academic and non-academic.

This chapter focuses on the illustrations of different categories of educational process that describe the school quality of the sample schools. Illustrations drawn from the observation of the schools are used to explain each of these categories. Having evolved categories regarding various parameters of educational processes, the next chapter provides individual school-community profiles.

Notes

1. Borasandra is a village with a considerable number of households belonging to the scheduled castes where, surprisingly, students' attendance is low even during the end of the academic year.
2. Where teacher and student activities are left to the discretion of individual members and not co-ordinated.
3. Information is restricted to textbooks.
4. The choice is left to the discretion of the students.
5. To either shout or physically abuse students in the hope that they do not create a riot.
6. See illustration-i, under domesticating/sheperding.
7. See illustration-ii, under domesticating/sheperding.
8. See illustration-vi, under domesticating/sheperding.
9. See illustration-v, under grinding in basics.
10. See illustration-xv, under grinding in basics.
11. See illustration-i, under grinding in basics.
12. See illustration-ii, under grinding in basics.
13. See illustration-ix, under grinding in basics.
14. See illustration-vi, under grinding in basics.
15. See illustration-x, under grinding in basics
16. The teachers invariably pick a few bright students whose re-

sponses help in proceeding ahead with the lesson.

17. See illustration-v, under information transmission.
18. See illustration-vi, under information transmission.
19. See illustration-vi, under information transmission
20. See illustration-i, under information transmission
21. See illustration-ii, under information transmission
22. 38.46 per cent of the learning episodes of Hindisagere, a single caste village, are classified as information transmission.
23. 8.33 per cent of the learning episodes of Borasandra, a SC/ST village type and Yalanadu, a two caste village are classified as information transmission. However, a majority of the learning episodes of Borasandra belong to domesticating/shepherding while in the case of Yalanadu, it is functional instruction.

Village Communities and Schooling

So far, we have discussed the various parameters of quality of educational process with illustrations. These categories are used to describe the school quality of rural schools and reflects the community characteristics that these schools supposedly serve. The community characteristics described are the caste composition, occupational distribution, educational levels of heads of households and income and land distribution of the village. This chapter discusses nine school community profiles of the individual case studies. This will give the overview of individual cases.

Channigappanapalya: Community Characteristics

It is a small village in Tumkur taluk of Tumkur district. The total area of the village is 121.01 hectares, with a population of 226 living in 38 households. Of the total population, the literate population comprise 59 males and 41 females. It falls under the category of single caste village. The caste composition of Channigappanapalya shows that 84.44 per cent of the households are Lingayats, 8.89 per cent scheduled castes/tribes and the remaining households belong to other caste categories. About 80 per cent of the heads of households are agriculturists and 11.12 per cent are engaged in non-traditional occupations. The percentage taken for the levels of education among the heads of households show that al-

most 50 per cent (48.89%) are illiterates. There are 8.89 per cent literates with no formal schooling, 15.54 per cent with lower primary education, 8.88 per cent with upper primary education, and 17.78 per cent with secondary education.

The distribution of households among the income groups reveal that only 25 per cent have an annual income of above Rs. 5,000 and among them only 2.2 per cent an income above Rs. 10,000. The land distribution shows that a majority of the households belong to the category of small landholding with a significant percentage in the category of landless and marginal holding.

It has a primary school situated in the village. The approach road to this village is a *kuchcha* road with a skeletal bus service. The nearest medical facility is at a distance of 5 to 10 kms. The sources for drinking water are wells and borewells. The nearest post office is at a distance of 5 kms from the village. The nearest town Gubbi is situated at a distance of 6 kms from the village. Electricity is available for domestic, agricultural, industrial and commercial purposes. The crops grown in the village, apart from ragi and rice, are coconut and groundnut.

Channigappanapalya: School Profile

It may be recalled that the school in this village is a single teacher school and had two teachers at two different points of time. Unfortunately, it so happened that both these teachers had a negative attitude towards educating the rural populace and defined the educational objectives along the domesticating line. The first teacher maintained good personal relationship with the dominant caste by lending the school building for the various religious ceremonies to affluent families. The members of these families, in turn, defended the teacher for his irregularity of operating the school, since they believe that for a single teacher it is practically impossible. This, in turn, resulted in the steep fall of the average length of the school day to 37.5 minutes. This being the average time that a student spends in school, they are trained to obey the cane. In such a situation, the teacher-student interaction is determined by the personal attributes of the individual students. Invariably, the operation of the school does not allow the organisation of any

co-curricular activities. Despite the irregular functioning of the school, the students attendance on the working days is fairly good.

Hindisagere: Community Characteristics

This village belongs to the Tiptur taluk known for its coconut gardens. It is a medium size single caste village with a total area of 221.57 hectares and has a total population of 969 living in 177 households. The literate population of the village is 283 males and 168 females. It was one of the first villages where family planning was highly successful. As a result, there is a low level of enrollment in the primary school due to lesser number of child population. Out of a total population of 969, 283 males and 168 females are literates.

This village is also dominated by the Lingayats (83.33%). Almost 12 per cent are scheduled castes/tribes and the remaining households belong to the other caste categories. The major occupation is farming and most of them are agriculturists. 16.67 per cent are engaged in non-traditional occupations, 7.14 per cent are labourers and 3.57 per cent are housewives. In Hindisagere only 32.14 per cent of the heads of households are illiterates while, 1.19 are literates with no formal schooling, 16.66 per cent have had lower primary education and 21.42 per cent upper primary education. Nearly 30 per cent of the head of households have an education level of matriculation.

Only 30 per cent of the households have an annual income above Rs. 5,000. The land distribution pattern reveals that nearly 50 per cent of the households are small farmers and 23 per cent are landless and marginal farmers.

This village has two schools—one a primary school and the other an aided high school situated in the same compound. The school is situated along the highway with the village on one side of the road and the school on the other side. A medical centre is situated at a distance of 5 kms from the village. The sources of water are the wells and borewells. The nearest town, Tiptur, is at a distance of 3 kms from the village. It has electricity available for domestic, agricultural, industrial and commercial purposes. Apart from the main food crops the commercial crops grown are coconut and groundnut.

Hindisagere: School Profile

This is a single-teacher school with the same teacher retained throughout the academic year. The teacher belongs to the dominant caste. Though not a local resident, this teacher is regular and classes are conducted on schedule. However, on some of the days the school does not operate since it is a single teacher school. The school-community relationship rests on the essential visits made by the teacher during the census to the village. Since the family profiles are known to him, the teacher-pupil interaction observed in this school though not very cordial and is definitely not hostile. This school does not show much variation in students' attendance. The classroom transaction, a culmination of the various parameters discussed above, seems to be predominantly of the information transmission type. Being a single-teacher school, and perhaps the teacher not being a local resident, co-curricular activities in the form of organised games are not observed.

Yalanadu: Community Characteristics

It is a large two caste village with the Lingayats as a dominant caste and Kurubas forming the other. It is located in Chikkanayakanahalli Taluk of Tumkur district. The total area of the village is 823.82 hectares, with a population of 2,191 living in 397 households. This village has 667 male and 420 female literates. The distribution of caste, occupation, level of education, income and landholdings among households at the village level are given below.

The caste composition of Yalanadu shows that 45.3 per cent of the households are Lingayats, and 39.7 per cent of the households are Kurubas. The remaining households belong to the other caste categories. A majority of the heads of the households are agriculturists (46.80%). The other major occupational category of the heads of households in Yalanadu is non-traditional occupations (22.7%). Nearly 50 per cent of the heads of households are illiterates. Only 3.39 per cent of the heads of households have matriculation. Nearly 57 per cent of the households have an annual income of less than Rs. 5,000. Nearly half of the heads of

households are marginal farmers and 30 per cent are small farmers.

It has two primary schools—one middle school and also a high school. The approach to this village is through a *pucca* road. The minimum distance to the nearest medical centre is between 5 to 10 kms. The source for drinking water are wells and borewells. It has a post office situated in the village and also has telephone connection. It has electricity available for domestic, agricultural, industrial and commercial purposes. Apart from the food crops, commercial crops like coconut and groundnut are also grown in plenty. There is a famous temple called Siddarameshvara temple in this village.

Yalanadu: School Profile

The school at Yalanadu presents an ideal situation where the number of teachers is higher than the number of standards. Perfect co-ordination has been observed among the staff members of the school under the leadership of a teacher who is the headmaster in-charge. The classes are conducted as scheduled with greater instances of the school day stretching beyond the stipulated time. Students practicing for sports and games during the early hours and late in the evenings after school hours are regular features of this school. Co-curricular activities, on a weekly basis, form part of the school programme. The school and the community share an excellent relationship which has resulted in mutual benefits. While the school draws considerable financial resources from the community, the teachers in the school do not miss a single opportunity to secure benefits in the form of scholarships for maximum number of students. Naturally, this has resulted in a healthy teacher-student interaction. The cumulative effect of all the above mentioned parameters of school quality process has resulted in a higher order of the classroom transactions. Most of the learning episodes of the school are classified in the functional instruction type, while there are a few exceptions when they are classified into the information transmission. All the teachers of the school are drawn from the community with a greater part of their service spent in this school. This has resulted in a greater teacher commitment that has a positive effect on the school quality process.

Balanapalya: Community Characteristics

It is a small village and belongs to Sira taluk of Tumkur district. The total area of the village is 76.06 hectares with a population of 219 living in 43 households. The literate population of the village is 38 males and 15 females.

It is a diversified village. Balanapalya consists of three major castes with the Vokkaligas comprising about 40 per cent, Kurubas and scheduled castes/tribes consisting of 30 per cent each. Nearly 70 per cent of the heads of households are agriculturists and 15 per cent are agricultural labourers. Three out of every four heads of households are illiterates and about 15 per cent have lower primary education. Nearly 85 per cent of the households have an annual income of less than Rs.5,000. In all, 40 per cent of the households do not own land, 30 per cent are marginal farmers and 20 per cent are small farmers.

It has one primary school that is located outside the village. The approach to this village is a *kuchcha* road. The minimum distance one has to cover to secure medical facilities is 5-10 kms. The sources of drinking water are borewells and wells. The nearest post office is at a distance of 5-10 kms. It has electricity for domestic, agricultural, industrial and commercial purposes. The main crops grown are rice and ragi. However, four households which have borewells grow commercial crops like coconut, groundnut, and sunflower.

Balanapalya: School Profile

The school in this village underwent a transition from a single teacher to two teachers and again to a single teacher in a span of one year. Hence, the educational quality process of this school becomes all the more complex. It is the orientation of these teachers at different points of time, during the year of observation, that determined the educational quality process. The first and the last teacher seems to have a positive mind-set about education for the rural population. They differ in their definition of educational objectives. While the first thinks that learning of basics is more important, the last teacher, during some learning episodes, appears to be relating the teaching to real life experiences. The other two

teachers, who are frantically trying for a transfer are not concerned with student learning and more often abstain from coming to the school. Except for the first teacher who conducts classes for the stipulated time, the other teachers manipulate the school timings to suit their convenience. The average length of the school day is 56.25 minutes. It is observed that school-community relationship though not hostile is not as cordial as in the case of some schools like Yalanadu. Some form of co-curricular activities in the form of recitation of songs and gardening is observed during the visits. There is a wide variation in the pattern of the educational transactions which is due to the frequent change of teachers.

Areyur: Community Characteristics

It is a medium size village and belongs to Tumkur Taluk of Tumkur district. The total area of the village is 365.01 hectares with a population size of 1,055 living in 200 households. The village has 311 male and 186 female literates.

It is a diversified caste village. The major castes of Areyur are the Lingayats (51.26%) and the scheduled castes/tribes (25.63%). The remaining households are distributed among the other caste categories, prominent among them being Vokkaligas (7.04%) and service castes (5.53%). About half of the heads of households are agriculturists and another 15 per cent agricultural labourers. About 25 per cent of the heads of households in this village are engaged in non-traditional occupations. The educational levels of the heads of households reveal that half of them are illiterates and nearly 20 per cent have an educational level of at least secondary education. Nearly 60 per cent of the households have an annual income of less than Rs.5,000. Nearly 50 per cent of the households do not own land. There are 20 per cent each of marginal and small farmers.

This village has an elementary school up to Standard VII and also an aided high school run by the Siddaganga Mutt, a religious organisation of the Lingayats. The only temple is located outside the village along with the two schools. The approach to this village is a *kuchcha* road with a skeletal bus service plying three times a day. During the rains, the bus service is suspended as the roads get flooded. The minimum distance to be covered to get medical facility is about 5 to 10 kms. The main sources of drinking water are

wells and tank. There is a post office situated inside the village. The nearest town is Gubbi, which is at a distance of 8 kms from the village. Electricity is available for domestic, agricultural, industrial and commercial purposes. A considerable number of households have at least one member in the government service. The main crops are rice and ragi. A section of the population also grow commercial crops and vegetables.

Areyur: School Profile

The school at Areyur presents a multi-grade teaching context where the actual number of teachers available for the classroom activities shows greater fluctuations. This school which has a large number of students is characterised by a acute shortage of teachers. This situation arises as there are several single teacher schools in the neighbouring villages where teachers are yet to be posted. To avoid the closure of these single teacher schools, the services of the teachers from the school at Areyur are used on a deputation basis. This has an adverse effect on the teaching-learning process at Areyur. In addition, there are frequent instances of one or the other teacher taking leave with or without permission. Hence, on most of the observation days, the teachers available to conduct the classes are effectively reduced to less than half of the number of Standards VI.

In a situation like this, most often, the educational transactions are characterised by domesticating/grinding in basics. However, since the teachers in this school display contrasting teacher orientations, there are a few learning episodes that are categorised under information transmission type. It is astonishing to note that the school, in spite of having a physical instructor on a regular basis, has the sports activities in the school reduced to an annual affair. The services of this teacher is used to maintain discipline in the classes. The average length of the school day is three hours and thirteen minutes. The headmaster does not reside in the village. The responsibility of building a strong school-community relationship rests on the headmaster who seems less inclined to provide the lead. To him the job is of secondary importance. In fact, he did express that he is a prosperous farmer and this job augments his status.

Kempanahalli: Community Characteristics

This is a large village and belongs to Kunigal taluk of Tumkur district. The total area of the village is 165.79 hectares with a population of 1,843 living in 306 households. The village has 467 male and 293 female literates.

Kempanahalli is a diversified caste village with 40 per cent of the population being Vokkaligas. The other castes in the village are the Kshatriyas (12.7%), Banajigas (11.3%) and the scheduled castes/tribes (11.3%). Merely 12.4 per cent of the households belong to other religions. The major occupational categories are agriculturists (57.60%) and agricultural labourers (23.40%). The distribution of the heads of the households across levels of education reveals that 58.40 per cent of them are illiterates and nearly 30 per cent have a primary education.

The income distribution among the households reveal that about 70 per cent have an annual income of less than Rs. 5,000. About 30 per cent households do not own any land and 50 per cent of them are marginal farmers.

It has two primary schools and one middle school. The school observed by the researcher is situated along the main road outside the village and the approach to this village is a *pucca* road. The sources of water for domestic consumption are wells and borewells. The village has a registered medical practitioner, and a post office. Electricity is available for domestic, agricultural, industrial and commercial purposes. Rearing of silkworms is the occupation of a significant number of households in the village.

Kempanahalli: School Profile

The school at Kempanahalli presents a unique picture where although the standards and the teachers are not evenly matched, the work in the school is more or less organised. This school draws a majority of the teachers including the headmaster from the community. Although the school has cordial relationship with the community, it is unable to draw resources from the community. This may be due to the fact that a majority of the community members are not financially sound. However, the co-operation of the community is utilised to regularise student attendance and also

for providing the essential learning materials for their respective wards. The headmaster with the team of teachers shares positive orientation towards the student population. Though the definition of the educational objectives vary with the individual teachers as well as the classroom context specific to the standard, the learning episodes in this school are of the higher order. They, more often, are classified into categories of information transmission and functional instruction. The teacher student interaction is cordial and greater instances of active student participation is seen during the course of observation by the investigator. Co-curricular activities do not receive much prominence in this school.

Borasandra: Community Characteristics

It is a small village located in Sira Taluk of Tumkur district. The area of the village is 891.94 hectares. This village has a population of 632 living in 111 households. There are 120 males and 51 females who are literates.

Borasandra has a considerable number of households belonging to the SC/ST community. The two major castes of Borasandra consist of Vokkaligas (62.50%) and scheduled castes/tribes (31.25%). The distribution of households across occupation categories shows that more than 90 per cent are agriculturists. The educational level of the heads of the households shows that 65 per cent are illiterates and about 20 per cent have studied up to Standard IV. The annual income of 60 per cent of the households is less than Rs. 5,000. Half of the households are marginal farmers and another 25 per cent of the households are landless farmers.

It has one primary school which has classes up to Standard IV located outside the village. Medical facilities are available at a minimum distance of 5 kms from the village. The sources of drinking water are wells and borewells. Although this village is small, one can see three clusters of population, namely, the main village, where the upper castes live, the Adi Karnataka¹ colony and the Adi Dravida² colony. All of them have separate wells and borewells which are used for drinking water. Apart from a few rich households which grow commercial crops like coconut and groundnut, the main crops are ragi and rice which depend on rain. The nearest post office is 5 kms from the village. The village is situ-

ated 2 kms away from the main road and one has to cross a small stream to reach the village. This distance has to be covered on foot and no buses ply into the village. Separate places of worship are maintained for the three clusters of population. Sericulture is another occupation among the well-off households. Electricity is available for domestic, agricultural, industrial and commercial purposes.

Borasandra: School Profile

The school in Borasandra has three teachers. All the three teachers commute daily. The interaction of the teachers including the headmaster with the community is aimed at avoiding confrontation with the influential families of the village. Instances of parents' visit to the school are characterised by open hostility displayed by the teachers. These teachers have a unique arrangement among themselves, such that, for the period that the school remains open, only one of them is present at a point of time. In other words, they operate on a shift system where their presence in the school is reduced to one-third of the period that the school is kept open. In spite of this arrangement, the school, on several occasions, remained closed for unwarranted reasons. Early closure and late commencement of the school day is a common phenomenon.

In such a situation, there is no scope to observe any higher order of classroom transaction except domesticating. Co-curricular activities are practically absent. The little time that the teacher and student interact is characterised by hostility.

Hodalur: Community Characteristics

It is a medium sized village located in Gubbi taluk of Tumkur district. The area of the village is 369.81 hectares. This village has a population of 827 persons living in 166 households. The literate population in the village is 304 males and 197 females.

Hodalur is characterised by a considerable number of households belonging to the SC/ST community. A predominant number of households (46.45%) belongs to the Lingayat community. The other major community is the scheduled castes/tribes with 30.32 per cent. The percentage distribution of the heads of

households across occupational categories reveal that 80 per cent of them are agriculturists and 10.32 per cent are agricultural labourers. The percentage distribution of heads of households across varying educational levels show that 52.86 per cent of them are illiterates. Just 20 per cent of the heads of households have passed matriculation and ten percent have an education of Standard VII. The income distribution of the households of Hodalur show that almost 60 per cent of the households have an annual income of less than Rs. 3,000. The distribution of the households based on the landownership reveal that nearly 35 per cent of the households do not own land and about 50 per cent are small and marginal farmers.

It has an elementary school with classes up to Standard VII. The school is located outside the village. The bus service to the village is irregular. The educational needs of the rich households are met by the convent schools located in Gubbi town at a distance of 8 kms from the village. These families do not rely on the public transport to reach Gubbi as they have their own vehicles. The approach to the village is through a *kiuchcha* road. The village is located at a distance of 5 kms from the main road. The nearest medical centre is at a distance of 5 kms. The sources of water for domestic consumption is wells and tank water. It has a post office situated within the village. Electricity is made available for domestic, agricultural, commercial and industrial purposes. The main crops are ragi and rice with a small segment of rich farmers growing commercial crops. The general population depends on rain for agricultural purposes.

Hodalur: School Profile

The school at Hodalur shows a blend of teachers with diverse teacher orientations. This school has a headmaster who is an SC and is a new appointee. The senior teacher of the school who belongs to the dominant caste dictates the entire functioning of the school. The headmaster is seen more often at the AEO's office at Gubbi, since establishing good relationship with the higher officials is his priority. In the absence of the headmaster, the senior master becomes the pivot on whom the entire functioning of the school depends. This man, characterised by negative orientation,

has a sway over his colleagues. As a result, the school-community relationship is hostile which is extended in the classroom to the students. Consequently, the educational process is predominantly of lower order transactions in the form of domesticating. The average length of the school day is short, and is equal to 2 hours 4 minutes due to the irregular operation of the school.

Since there is not much learning taking place in the classroom, augmented by the negative attitude of the teachers and irregular functioning of the school, the variation in students' attendance is higher in this school.

Brahmasandra: Community Characteristics

It is a medium sized village belonging to Tumkur taluk of Tumkur district. The total area of the village is 492.40 hectares, with a population of 1,148 living in 218 households. The village has a total of 302 male and 147 female literates.

Bhramasandra also has a considerable number of families belonging to the SC/ST population. The major castes of Bhramasandra are the Lingayats (35.7%) and Scheduled Castes/Tribes (32.40%). This village consists of largely agriculturists (66.40%) and agricultural labourers (17.10%). The educational levels of heads of the households show that 54.40 per cent of them are illiterates and about 30 per cent of them have primary education. About 85 per cent of the households have an annual income of less than Rs. 5,000. Nearly 75 per cent of the households are small and marginal farmers and 20 per cent of the households do not own any land.

This village has two primary schools and a middle school. Though the approach to this village is through a *kuchcha* road there is a skeletal bus service. The school has classes up to Standard VII and is situated outside the village. The other primary school is located in the AK (Scheduled Castes) colony. However, for all practical purposes, the two schools are combined with the classes held in the main school that is located outside the village. The nearest medical facility is at a distance of 5 kms. Open wells form the main source of drinking water. Although borewells are dug separately for the AK Colony, and the main village, the borewells are dry. There are two separate wells for the main village and the

AK Colony which are used for domestic consumption. This village has a post office. The main crops are ragi and rice and a few rich households grow commercial crops like coconut and groundnut. However, this is restricted to families having borewells to supplement the rain water. Generally, the main crops are rain-fed, and electricity is available for agricultural purposes only.

Brahmasandra: School Profile

The school at Brahmasandra consists of teachers with different orientations. Some teachers in this school treat children differentially based on the caste background of the students. The teacher community in this school consists of a Muslim and a Christian. While the teachers of upper castes have lunch together, the other teachers eat individually. During the observation, it is noticed that a senior teacher who resides in the village segregates the scheduled caste students who are usually seated in the last bench of the class. He makes no effort to conceal his caste feelings and even the drinking water for him is brought by students belonging to the upper caste.

The orientations of the teachers in this school also show considerable variation that has a bearing on the type of educational transactions. Except for the few illustrative lessons taught during the first round of observation, the learning episodes more often are confined to domesticating. Standard I and II are fortunate to have a teacher with a positive mind-set though his definition of educational objectives is grinding in basics. Apart from one teacher, a new appointee in the school, who is seen teaching on few occasions, the children, in the normal course are allowed to do what they want. Caste politics has crept into the functioning of the School Betterment Committee (instances of which are indicated earlier) that has an adverse effect on the functioning of the school. Membership to the SBC is more of a status symbol. Students are seen playing games during the earlier months of the academic year due to the interest evinced by one teacher.

Analysis of Achievement Scores Across Categories of Educational Process

Earlier, it has been proposed to study the educational process in re-

Table 6.1
Educational Quality Process Categories of Individual Schools

Name of Village	Educational Transactions	Average Length of School Day	Teacher Orientation		School-Community Relationship	Co-curricular Activities	Teacher-Pupil Relationship	Students' Attendance	Total
			Attitude	Definition of Educational Objectives					
Channigappanapalya	1	1	2	1	2	1	2	1	11 (3)
Hindisagere	3	3	3	3	2	1	2	2	19 (1)
Yalanadu	3	3	3	3	3	3	3	3	24 (1)
Balanapalya	2	1	3	2	3	2	2	2	17 (2)
Areyur	1	3	3	2	2	2	2	2	17 (2)
Kempanahalli	3	3	3	3	3	2	3	3	23 (1)
Borasandra	1	1	2	1	1	1	1	1	9 (3)
Hodalur	2	2	2	1	1	1	1	1	11 (3)
Brahmasandra	2	2	2	2	2	2	2	3	17 (2)

* Figures in parentheses refer to the educational quality process categories

lation to the utilisation represented by the achievement of the students. Relating students' achievement within each of the cases studied is not possible because of the limited number of students available for testing in each school. It is noted, in the case studies, there are schools with similar quality of educational process. Hence, an attempt has been made to rate each case on individual parameters of educational process on a three-point scale and the rating given to the school on each of the parameters has been added to obtain a quantitative indicator of the quality of educational process. Table 6.1 gives the scores of individual schools with respect to each parameter of quality of educational process and the total score.

Depending upon the break in the continuity of the scores, the cases has been classified into three groups under each cluster. Students from schools falling under each cluster are treated as a group for the comparison of achievement. The significance of differences among the three groups in achievement scores in Mathematics and Environmental Science on tests administered has been tested using F and t-statistics.

The hypotheses stated in relation to this are:

- (a) there is no significant difference in the means of achievement scores of Mathematics across three categories of quality of educational process; and
- (b) there is no significant difference in the means of achievement scores of Environmental Science across three categories of quality of educational processes.

The level of significance fixed for accepting the hypothesis is 0.05 level in the case of both F and t-tests using categories of quality of educational process as independent variable and individual achievement scores as dependent variable.

Table 6.2 gives the result of the analysis with respect to Mathematics. From this table, it is clear that the obtained F value of 48.302 is greater than the theoretical value of 3.18 and therefore, it is significant at 0.05 level of significance. Thus, it can be inferred that the students in schools of different categories of educational process perform differently in Mathematics test.

Table 6.2

One-way Analysis of Variance of Achievement Scores in Mathematics Across Different Educational Quality Process

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	1,44,903.90	72,451.95	48.302	0.0000
Within Groups	51	76,498.93	1,499.98	-	-
Total	53	2,21,402.83	-	-	-

To find out which of the three means are significantly different, t-tests have been conducted for the achievement scores in Mathematics between the following groups:

1. Better and average educational quality process.
2. Better and poor educational quality process.
3. Average and poor educational quality process.

From Table 6.3, it is clear that the obtained t-value between better and average educational quality process (6.48) and between better and poor educational quality process (13.51) are significant at 0.05 level of significance. Hence, it can be inferred that the means of achievement scores in Mathematics is different among the first and third and the first and second groups.

Table 6.3

Comparison of the Achievement Scores in Mathematics Across Educational Quality Process

	Single/Two Caste (1)	Diversified Caste (2)	SC/ST Caste (3)
Mean	148.65	50.68	26.84
N	17	19	18
S.D.	32.26	54.30	19.95
S.E.	7.83	12.46	4.70

t between groups 1 & 2 = 6.48*

between groups 1 & 3 = 13.51*

between groups 2 & 3 = 1.75

* significant at 0.05 level.

However, the obtained t-value of 1.75 between the average educational quality process category and the poor educational quality process category is less than the theoretical value of 2.03 at 0.05 level of significance. Thus, the achievement scores of students between these two groups in Mathematics do not differ significantly.

Table 6.4
One-way Analysis of Variance of Achievement Scores in Environmental Science Across Educational Quality Process

Source	df	Sum of Squares	Mean Squares	F-Ratio	F-Prob.
Between Groups	2	4,594.46	22,848.23	101.79	0.0000
Within Groups	51	11,447.40	224.459	-	-
Total	53	57,143.87	-	-	-

From Table 6.4, it is clear that the obtained F-value of 101.79 is greater than the theoretical value of 3.18 and is significant at 0.05 level. Hence, the hypothesis is rejected. Thus, it can be inferred that the difference in the mean of the achievement scores in Environmental Science is significantly different across the three categories of educational process.

To find out which of the three pairs of means is significantly different, t-tests have been carried out for the achievement scores in Environmental Science between the following groups:

1. Better and average educational quality process.
2. Better and poor educational quality process.
3. Average and poor educational quality process.

From Table 6.5, it is clear that the obtained t-value between better and average educational quality process (8.92); between better and poor educational quality process (18.37) and between average and poor educational quality process (3.91) are significant at 0.05 level of significance. Hence, it can be inferred that the means of achievement scores in Environmental Science is different among the three groups. The value of mean score shows that the students belonging to better educational process quality perform better followed by students belonging to average educational proc-

ess. Students belonging to the poor educational process quality performed badly.

Table 6.5

Comparison of the Achievement Scores in Environmental Science Across Educational Quality Process

	<i>Single/Two Caste (1)</i>	<i>Diversified Caste (2)</i>	<i>SC/ST Caste (3)</i>
Mean	80.24	30.52	9.72
N	17	19	18
S.D.	11.95	19.99	10.76
S.E.	2.89	4.59	4.54

t between groups 1 & 2 = 8.92*

between groups 1& 3 = 18.37*

between groups 2 & 3 = 3.91*

* significant at 0.05 level.

After having established the influence of quality of education on the performance of the students in two core subject areas, the triangulation of village characteristics, quality of educational process and student achievement have been discussed in the next chapter.

Notes

1. Adi Karnataka (refers) to the scheduled castes.
2. Adi Dravida (refers) to another sub-group of the scheduled castes.

Caste and Differential Outcomes

The community characteristics are found to be crucial in determining the distribution of resources among the rural schools. Therefore, understanding this by way of exploring the variation in educational facilities, processes and their bearing on the achievement of students form one of the major objectives. This chapter discusses the variation in the quality of educational processes with different community characteristics.

The community characteristics determining the structural organisation of the village for the present study are: caste composition, land distribution, income, occupational distribution and educational level of the heads of households. All these characteristics have been considered at the household level. Since only nine villages are considered for the case study approach, the villages are classified into three groups, viz., high, medium/moderate and low, based on each of the community characteristics. The educational process indicators, namely, teachers' orientation, students' attendance, average length of the school day and educational transactions are individually compared with independent community characteristics. The community characteristics considered are occupational categories, educational levels of the heads of households, income levels, land distribution and caste composition of the village. The comparison is made through graphic representation.

Occupation and Educational Processes

Classification of Villages Based on Occupation

The occupational categories used for classifying the villages are farmers, labourers, businessmen, village services, non-traditional occupation and housewives. Table 7.1 gives the percentage distribution of the heads of households among these categories in the villages of Channigappanapalya, Balanapalya, Borasandra, Hindisagere, Hodalur, Brahmasandra, Areyur, Kempanahalli, and Yalanadu.

It can be seen that more than 50 per cent of the heads of households in all the villages are farmers except for Yalanadu where the corresponding figure is 46.8 per cent. Based on the concentration of households in four traditional occupations, namely, farmers, labourers, businessmen and service occupations, the nine villages have been classified as:

- (a) high concentration of traditional occupations (more than 90%). The villages that fall in this category are Hodalur (91.62%), Borasandra (95.63%) and Balanapalya (91.08%);
- (b) moderate concentration of traditional occupations (between 80 and 90%). Channigappanapalya (86.6%), Brahmasandra (87.3%) and Kempanahalli (86.2%) are classified into this group; and
- (c) low concentration of traditional occupations (less than 80%). The villages that fall in this category are Hindisagere (79.76%), Areyur (70.35%) and Yalanadu (73.6%).

The four parameters of the educational process are compared with these occupational based categories of villages using the mean value of each category. The mean value is obtained by averaging the values obtained by individual schools on the parameters of educational process grouped under each occupational category. The four parameters of educational processes considered are: (a) teachers' orientation; (b) students' attendance; (c) average length of the school day; and (d) educational transactions. Graphic representations are used for the purpose of comparison.

Teachers' Orientation

It may be recalled that this parameter consists of two components,

Table 7.1
Percentage Distribution of Heads of Households across Occupational Categories Village-wise

Occupational Categories	Channigapp anapalya	Hindis- agere	Yalanadu	Balan- apalya	Areyyur	Kempa- nahalli	Borasandra	Hodalur	Brabmasandra
Farmers	80 (36)	71.43 (60)	46.80 (191)	67.86 (38)	51.76 (103)	57.06 (209)	91.24 (26)	80.0 (124)	66.40 (160)
Labourers	2.22 (1)	7.14 (6)	13.40 (55)	14.29 (8)	15.08 (30)	23.40 (85)	4.38 (3)	10.32 (16)	17.10 (41)
Businessmen	-	-	5.6 (23)	8.93 (5)	1.00 (2)	4.6 (17)	-	0.65 (1)	2.10 (5)
Village Services	4.44 (2)	1.19 (1)	7.80 (32)	-	2.51 (5)	0.60 (2)	-	0.65 (1)	1.70 (4)
Non-traditional Occupations	11.12 (5)	16.67 (14)	22.70 (92)	5.35 (3)	25.13 (50)	13.50 (49)	4.38 (3)	3.87 (6)	8.6 (21)
Housewives	2.22 (1)	3.57 (3)	3.7 (15)	3.57 (2)	4.52 (9)	0.3 (1)	-	4.51 (7)	4.10 (10)
Total	100 (45)	100 (84)	100 (408)	100 (56)	100 (199)	100 (363)	100 (32)	100 (155)	100 (241)

* Figures in parentheses refer to frequencies.

namely, the mind-set regarding the meaning of education to the rural population and the definition of educational objectives.

Figure 1 gives the variation and distribution of teachers according to the mind-set regarding the meaning of education among schools grouped under different occupation based categories of villages. Out of a total of 34 teachers, 8 of them are in schools located in villages with a high concentration of traditional occupations. Twelve teachers belong to schools located in villages with a moderate concentration of traditional occupations. There are 14 teachers in schools located in villages with a low concentration of traditional occupations. From the graph it can be inferred that the percentage of teachers with positive mind-set towards educating the rural population increases with the decrease in the concentration of traditional occupations. For example, Teacher 3 of Yalanadu¹ is very enthusiastic about associating himself in any thing new that is introduced in the school. He tries to build a competitive spirit among students. He guides them to perform better. He is very encouraging to students while conducting the class and never fails to reward a student by saying “good” when the correct response is given.

Figure 2 gives the distribution of teachers according to the definition of the educational objectives. The categories based on the definition of educational objectives have been discussed in detail in the previous chapter. From Figure 2, it is clear that the percentage of teachers defining the educational objectives along the functional instructional line increases with decrease in the concentration of the traditional occupations in the corresponding villages where the schools are located. The converse is true about villages with a higher concentration of the traditional occupations where most teachers define educational objectives as domesticating.

In other words, it is observed that villages having a relatively higher percentage of the population engaged in non-traditional occupations are able to bargain for teachers with a positive mind-set. These teachers tend to define educational objectives as functional instruction or information transmission type rather than domesticating/grinding in basics. Hence, schools located in these villages have more number of teachers, and proportionately of better quality. The reasons probably are, the exposure to non-traditional

Figure 1
Occupation Categories and Teacher Orientation

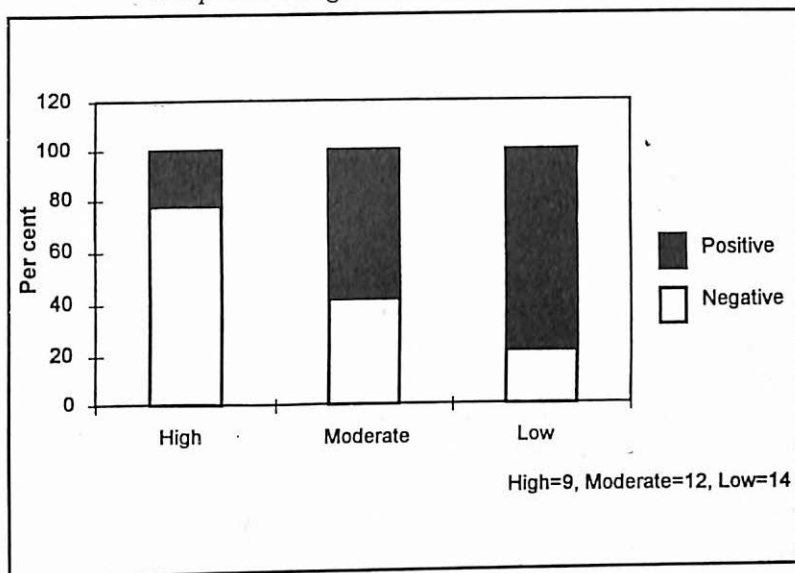
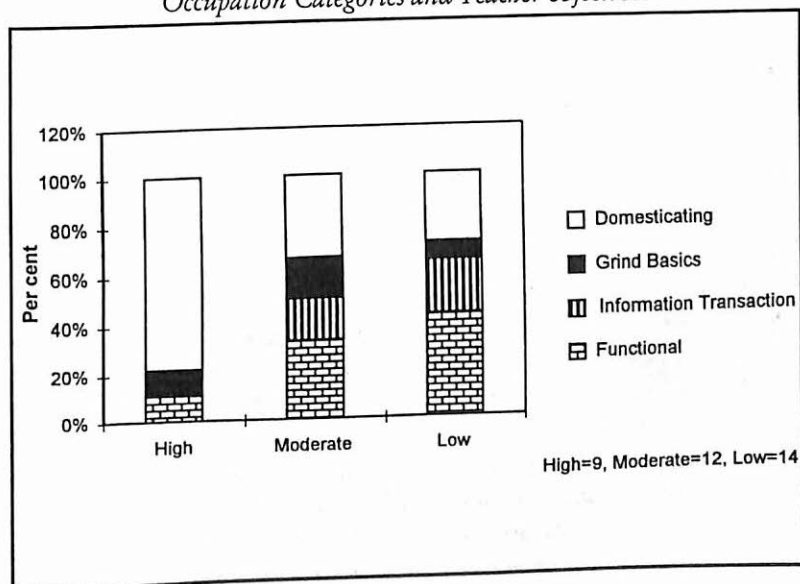


Figure 2
Occupation Categories and Teacher objectives



occupations given to individuals along with the need for better formal education to enter non-traditional occupations. For them, the education of the children is the only capital they accumulate and therefore, demand more accountability from the teachers.

Students' Attendance

As discussed earlier in Chapter 3, the students' attendance with respect to four cycles have been obtained by the average of the attendance of students studying in Standards I to IV. Thus, a school will have four values of students' attendance, representing different points of time. The fluctuation of students' attendance in an academic year across schools located in different occupational categories of villages are compared in Figure 3.

From Figure 3, it can be seen that the students' attendance remains more or less high in the case of the first two categories² for almost all months except once during the year. Whereas in villages with high concentration of traditional occupations like farmers, agricultural labourers, etc., attendance of children comes down drastically during the middle two cycles of observation, i.e., from August to December. It may be noted that much of the agricultural operations have to take place only during these months. Most of the households³ in villages with high concentration of traditional occupations belong to the farming community, who draw on family labour which includes children during the peak season.

Average Length of the School Day

The average length of the school day is represented in minutes based on a time sample of sixteen observation days with respect to the schools located in different occupation based categories. This is represented in the figure. From Figure 4, it can be inferred that the average length of the school day decreases with the increase in the concentration of traditional occupations in the villages where the schools are located.

In other words, schools that cater to communities with a higher concentration of traditional occupations do not follow the norm and have, on an average, a shorter day. A shorter day results in the reduction of the active instructional time and is a significant

Figure 3
Occupation Categories and Students' Attendance in 4 Cycles

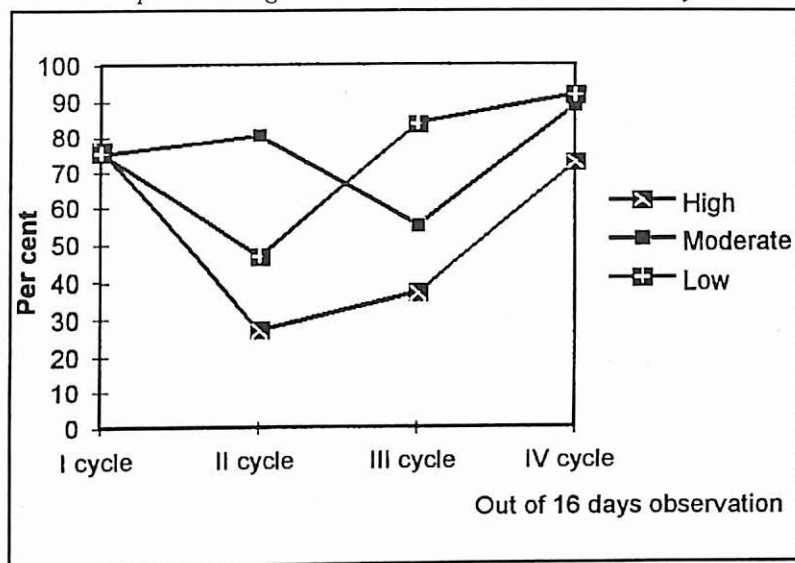
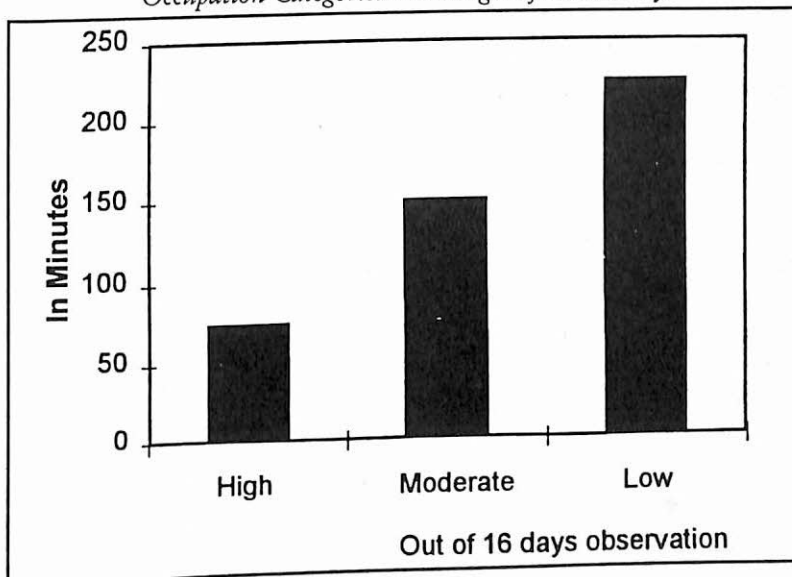


Figure 4
Occupation Categories and Length of School Day



factor in the context of rural primary schools⁴.

Educational Transaction

The four types of educational transactions are domesticating, grinding in basics, information transmission and functional instruction. The distribution of the learning episodes across different educational transactional types with respect to different occupations based categories is represented in the Figure 5.

From Figure 5, it can be noted that the percentage of learning episodes classified as domesticating increases while functional instruction decreases in schools located in villages with the increase in the concentration of traditional occupations. In fact, schools located in villages with high concentration of traditional occupations have no learning episodes classified as functional. Therefore, it can be seen that schools located in villages with a high concentration of traditional occupations are representative of teachers with a negative orientation, poor student attendance, shorter school day and educational transactions of a lower order.⁵

Educational Processes and Literacy⁶

Classification of Villages Based on Education

The distribution of the heads of households among the categories of levels of education is given in Table 7.2. These categories are illiterates, literates without formal schooling, between one to four years of schooling (primary education), between five to seven years of schooling (higher primary education), eight to ten years of schooling (secondary education), eleven to twelve years of schooling (under-graduate), thirteen to fifteen years of schooling (graduate), technical/vocational education (diploma), and professional education (engineering, medical, etc.). Based on the percentages of the literates among the heads of households, the nine villages are classified as relatively:

1. high concentration of literates (above 50%). The villages classified in this category are Hindisagere (67.86%), Yalanadu (56.90%), Channigappanapalya (51.11%);
2. moderate concentration of literates (between 40 to 50%) and

Table 7.2
Percentage Distribution of the Heads of Households Across Levels of Education, Village-wise

<i>Occupational Categories</i>	<i>Channigappana- palya</i>	<i>Hindisagere</i>	<i>Yalanadu</i>	<i>Balanapalya</i>	<i>Areyur</i>	<i>Kempanaballi</i>	<i>Borasandra</i>	<i>Hodalur</i>	<i>Brabmasandra</i>
Illiterates	48.89 (22)	32.14 (27)	43.10 (176)	76.79 (43)	51.76 (103)	60.61 (220)	65.63 (21)	52.25 (81)	54.40 (131)
Literates	8.89 (4)	1.19 (1)	5.6 (23)	-	4.02 (8)	3.03 (11)	6.25 (2)	7.10 (11)	5.00 (12)
Lower Primary Education	15.55 (7)	16.66 (14)	13.0 (53)	16.07 (9)	11.06 (22)	15.70 (57)	18.75 (6)	5.81 (9)	16.70 (40)
Upper Primary Education	8.89 (4)	21.42 (18)	19.9 (81)	3.57 (2)	10.56 (21)	11.02 (40)	6.25 (2)	11.61 (18)	12.50 (30)
S.S.L.C.	17.78 (8)	17.86 (15)	14.4 (59)	3.57 (2)	16.58 (33)	7.71 (28)	3.12 (1)	19.36 (30)	10.70 (26)
P.U.C.	-	2.39 (2)	0.2 (1)	-	1.51 (3)	1.10 (4)	-	2.58 (4)	0.07 (2)
Degree	-	5.95 (5)	1.8 (7)	-	2.51 (5)	0.83 (3)	-	1.29 (2)	-
Professional Degree	-	2.39 (2)	1.0 (4)	-	-	-	-	-	-
Technical Diploma	-	-	1.0 (4)	-	2.00 (4)	-	-	-	-
Total	100 (45)	100 (84)	100 (408)	100 (56)	100 (199)	100 (363)	100 (32)	100 (155)	100 (241)

Note: Figures in parentheses refer to frequencies.

the villages under this category are Hodalur (47.74%), Brahmasandra (45.60%) and Areyur (48.24%); and

3. low concentration of literates (below 40%). The three villages that fall under this category are Balanapalya (23.21%), Borasandra (34.37%) and Kempanahalli (39.39%).

The four parameters of the educational process are compared with these classifications. Graphic representations are used for the purpose of comparisons.

Teachers' Orientation

It can be inferred from Figure 6, that three out of every four teachers working in schools, of villages with high/low concentration of literates among the heads of households, have a positive mind-set regarding the meaning of education to the rural population, while two out of every three teachers employed in schools serving villages with moderate concentration of literates among the heads of households, have a negative mind-set.

Figure 7 reveals that more than 50 per cent of the teachers belonging to schools in villages with either high or low concentration of literates among the heads of households define educational objectives as functional instruction type. In contrast, about 70 per cent of the teachers of the schools serving the villages with moderate concentration of literates among the heads of households define educational objectives as domesticating (at the lower end of the continuum). The pattern of distribution of teachers according to their orientation is irregular across education-base village types. Schools located in villages of high and low concentration of literates have a comparatively higher percentage of teachers with a positive orientation. The schools located in villages with a moderate concentration of literates have a majority of the teachers with a negative orientation

Students' Attendance

It may be seen from Figure 8, that types of cases based on the education of the heads of households do not indicate any relationship with the fluctuation of attendance at different points in a given academic year. However, the average attendance of children for the

Figure 5
Occupation Categories and Educational Transaction

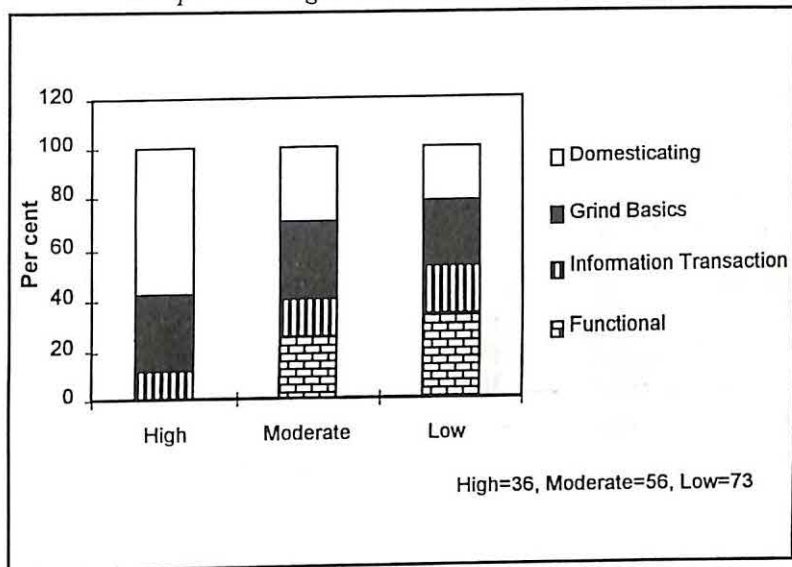


Figure 6
Education Categories and Teacher Orientation

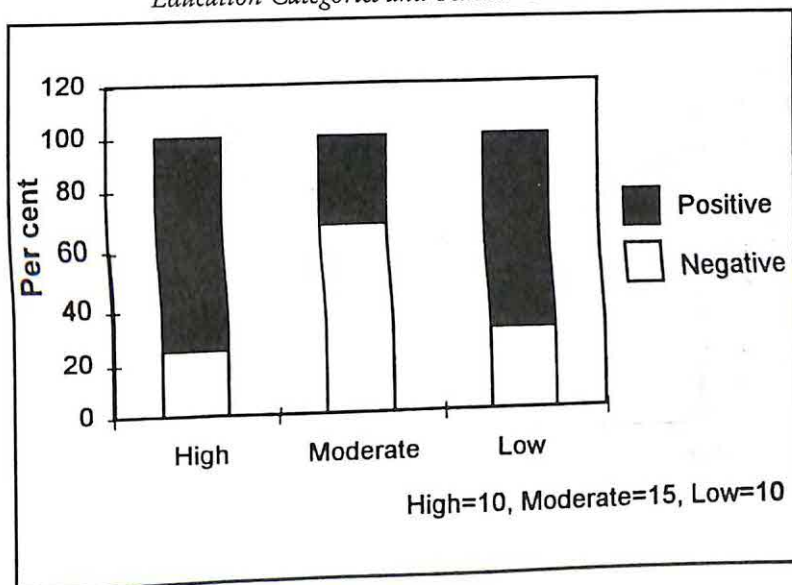


Figure 7
Education Categories and Teacher Objectives

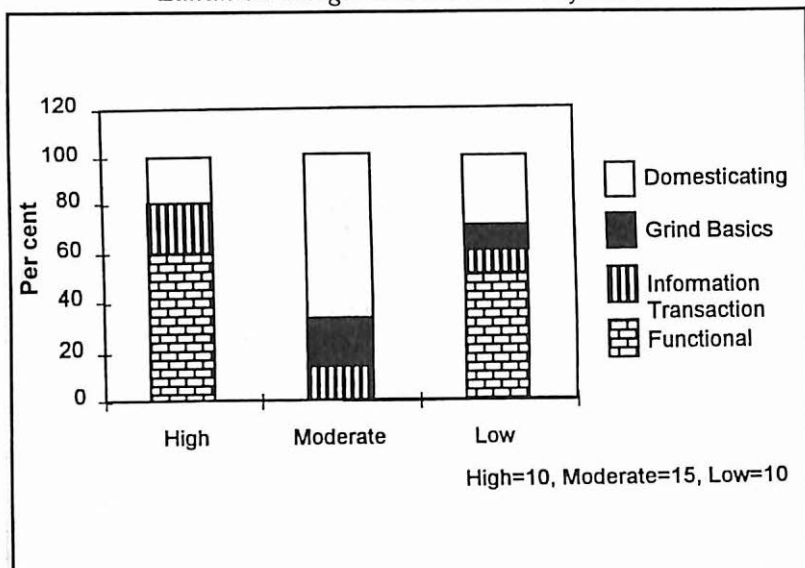
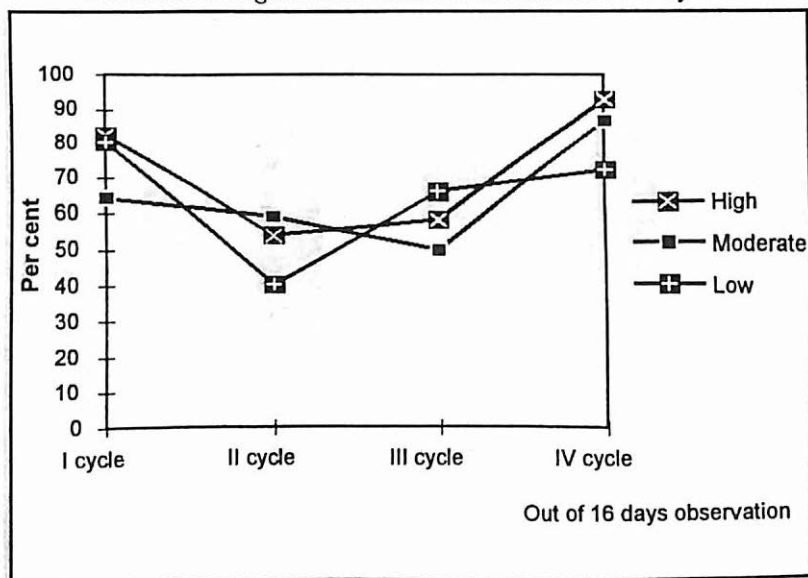


Figure 8
Education Categories and Students' Attendance in 4 Cycles



entire year is high in schools with high percentage of literates among the heads of households and gradually declines across the literacy levels of the village.

Average Length of the School Day

From Figure 9, it can be observed that the average length of the school day decreases with the decrease in the concentration of literates among the heads of households in a village.

Educational Transactions

Figure 10 shows that the highest percentage of learning episodes are classified as functional instruction type in schools located in villages with higher concentration of literates among the heads of households, followed by schools located in villages with low concentration of literates among the heads of households. A negligible percentage of learning episodes in schools with moderate concentration of literates are classified in the above mentioned educational transactional type.

The comparison of educational quality processes with the education of the heads of households is not indicative of any clear relationship between the two. However, only the length of the school day increases progressively across education-based village types. It is found that the higher the literates among the heads of households in a village, longer is the school day.

Educational Processes and Income

Classification of Villages Based on Income

The income considered for the present study is at the household level on an annual basis. The following are the income categories used for the basis of classification, namely, (i) Rs. 500 and below, (ii) Rs. 501-1,000, (iii) Rs. 1,001-2,000, (iv) Rs. 2,001-3,000, (v) Rs. 3,001-5,000, (vi) Rs. 5,001-7,000, (v) Rs. 7,001-10,000, (vi) Rs. 10,001-20,000 and (vii) Rs. 20,001 and above.

Based on the gini coefficients pertaining to the inequalities in income distribution, villages have been classified as:

Figure 9
Education Categories and Length of School Day

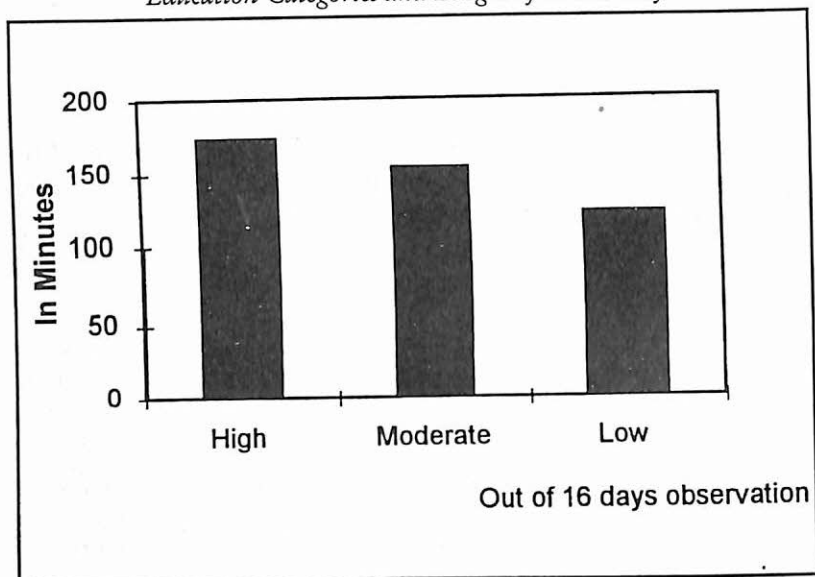
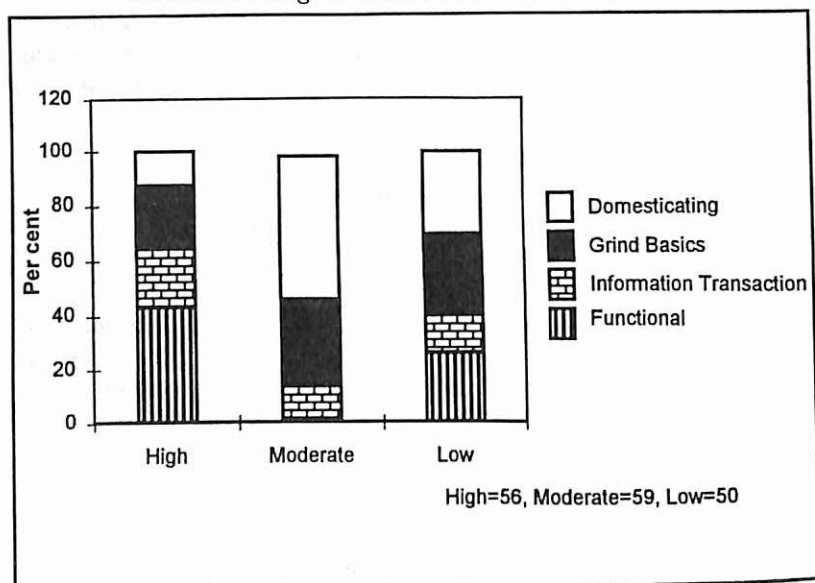


Figure 10
Education Categories and Educational Transaction



- (a) high income inequality (more than 0.55). Areyur (0.63), Brahmasandra (0.60) and Hodalur (0.58) come under this category;
- (b) medium income inequality (between 0.45 and 0.55). The villages of Channigappanapalya (0.52), Hindisagere (0.48) and Kempanahalli (0.46) form this category; and
- (c) low income inequality (below 0.45). Balanapalya (0.34), Borasandra (0.32) and Yalanadu (0.39) are the villages under this category.

To this classification, the four parameters of the educational process are compared using graphic representations.

Teachers' Orientation

Figure 11 shows that three out of every four teachers working in schools located in villages characterised by low/medium inequality in income distribution have a positive mind-set in educating the rural population. The schools located in villages with high inequality in income distribution have two out of every three teachers with negative mind-set.

In terms of the definition of educational objectives, it can be said that more than 50 per cent of the teachers employed in schools located in villages with inequality in income distribution are of the functional instruction type. But two-thirds of the teachers working in schools located in villages with high inequality in income distribution define educational objectives as domesticating.

Thus, we learn that the orientation of teachers working in rural schools varies according to the inequality in the income distribution of the households in a village. Higher the inequality in the income distribution of the households in a village, higher is the percentage of teachers with a negative mind-set, who define educational objectives of a lower order like domesticating. The converse is true in the case of schools located in villages with a medium/low inequality in income distribution.

Students' Attendance

Figure 13 shows that schools located in villages with low inequality in income distribution record a high students' attendance in the

Table 7.3
Percentage Distribution of Households in Different Income Categories Village-wise

<i>Annual Income Categories (in Rs.)</i>	<i>Channigappana- palya</i>	<i>Hindi- sagere</i>	<i>Yalanadu Balanapalya</i>	<i>Areyur</i>	<i>Kempanaballi Borasandra</i>	<i>Hodalur Brabmasandra</i>			
Less than 500	13.33 (6)	7.14 (6)	2.94 (12)	5.36 (3)	22.11 (44)	6.00 (22)	3.12 (1)	20.00 (31)	24.50 (59)
500 - 1,000	24.44 (11)	8.33 (7)	3.42 (14)	10.71 (6)	21.61 (43)	16.00 (58)	0	22.58 (35)	19.50 (47)
1,001 - 2,000	22.22 (10)	7.14 (6)	10.04 (41)	32.14 (18)	15.58 (31)	8.30 (30)	9.38 (3)	10.97 (17)	17.00 (41)
2,001 - 3,000	13.33 (6)	13.10 (11)	27.00 (110)	19.64 (11)	12.56 (25)	18.50 (67)	43.75 (14)	10.32 (16)	12.90 (31)
3,001 - 5,000	2.22 (1)	22.62 (19)	30.40 (124)	23.21 (13)	11.06 (22)	19.00 (69)	25.00 (8)	16.13 (25)	13.30 (32)
5,001 - 7,000	15.56 (7)	16.68 (14)	15.70 (64)	8.94 (5)	4.02 (8)	18.70 (68)	9.38 (3)	6.45 (10)	3.70 (9)
7,001 - 10,000	6.68 (3)	8.33 (7)	2.90 (12)	0	2.51 (5)	6.60 (24)	6.25 (2)	7.10 (11)	3.30 (8)
10,001 - 20,000	2.22 (1)	5.95 (5)	4.90 (20)	0	7.04 (14)	5.50 (20)	3.12 (1)	5.80 (9)	4.60 (11)
Above 20,000	0	10.71 (9)	2.70 (11)	0	3.51 (7)	1.40 (5)	0	0.65 (1)	1.20 (3)
Total	100 (45)	100 (84)	100 (408)	100 (56)	100 (199)	100 (363)	100 (32)	100 (155)	100 (241)

* Figures in parentheses refer to frequencies.

Table 7.4
Percentage Distribution of Households Among Landholdings, Village-wise

Landholdings of Households	Channigappana- palya	Hindi- sagere	Yalanadu Balanapalya	Areyyur	Kempanahalli Borasandra	Hodalur	Brahmasandra		
Landless	11.12 (5)	16.68 (14)	21.81 (189)	42.80 (24)	48.24 (96)	31.13 (113)	12.50 (4)	34.17 (53)	21.58 (52)
Less than 2 acres	15.56 (7)	7.14 (6)	29.41 (120)	28.62 (16)	21.61 (43)	47.93 (174)	12.50 (4)	20.00 (31)	36.92 (89)
2.1 - 5.0 acres	33.34 (15)	45.24 (38)	31.63 (129)	21.42 (12)	22.61 (45)	15.98 (58)	50.01 (16)	32.26 (50)	27.00 (65)
5.1 - 8.0 acres	15.55 (7)	13.09 (11)	10.05 (41)	3.58 (2)	5.53 (11)	3.03 (11)	15.60 (5)	8.39 (13)	8.70 (21)
Above 8 acres	24.43 (11)	17.85 (15)	7.10 (29)	3.58 (2)	2.10 (4)	1.93 (7)	9.39 (3)	5.18 (8)	5.80 (14)
Total	100 (45)	100 (84)	100 (408)	100 (56)	100 (199)	100 (363)	100 (32)	100 (155)	100 (241)

Note: Figures in parentheses refer to frequencies.

Figure 11
Income Categories and Teacher Orientation

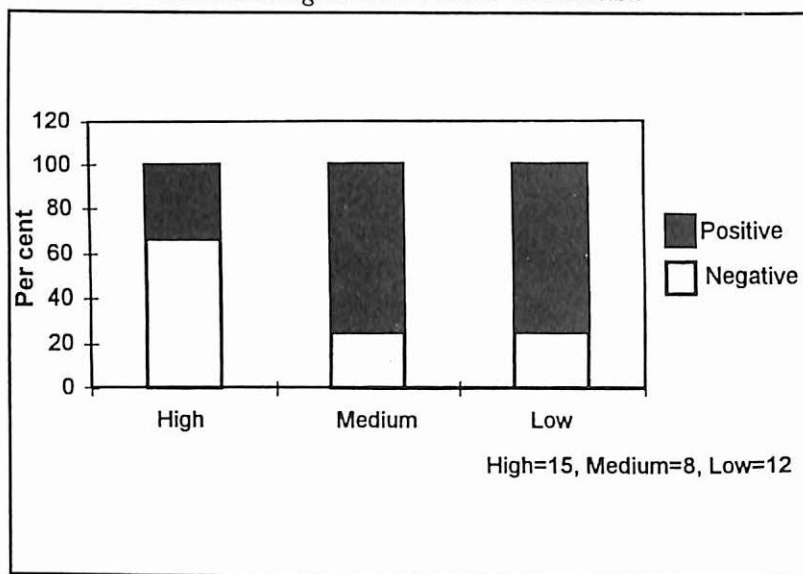
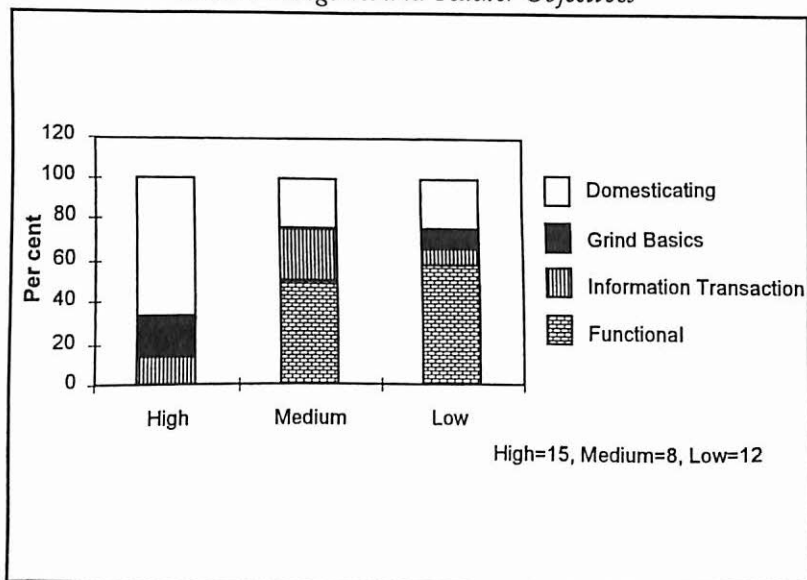


Figure 12
Income Categories and Teacher Objectives



first cycle, while in the second cycle, it reduces almost to half as that of the first cycle. In the second cycle, a similar pattern is seen with respect to students' attendance in schools located in medium inequality in income distribution in the subsequent cycles. However, fluctuation in students' attendance is lesser in the schools located in villages with high inequality in income distribution in the first three cycles. It, however, increases steeply in the fourth cycle as the intensity of the classroom activity increases with the teachers preparing the students for the promotional examination.

Average Length of the School Day

Figure 14 indicates that the length of school day is almost equal in schools located in villages characterised by high/medium inequality in income distribution. However, schools located in villages with low inequality in income distribution has a shorter school day on an average.

Educational Transaction

Figure 15 shows that the percentage of learning episodes classified as functional instruction type reduces with the increase in the inequality of the income distribution in the village.

Educational Processes and Land Distribution

Classification of Villages Based on Land Distribution

The landholdings are categorised as marginal holdings (less than 2 acres), small holdings (2.1 to 5 acres), medium holdings (5.1 to 8 acres) and big holdings (8.1 acres and above).

Based on the gini co-efficient of inequality in land distribution, the nine villages are classified as relatively:

- (a) high unequal distribution of land (more than 0.60). Balanapalya (0.66), Areyur (0.72) and Hodalur (0.62) form this category of villages;
- (b) medium unequal distribution of land (between 0.55 and 0.6). The following villages, namely, Brahmasandra (0.55), Hindisagere (0.55) and Kemapanahalli (0.59) belong to this group; and

Figure 13
Income Categories and Students' Attendance in 4 Cycles

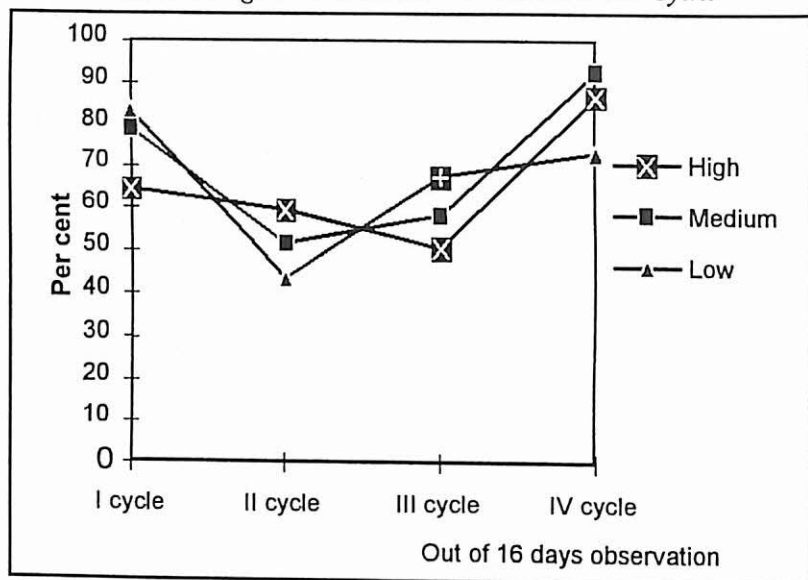


Figure 14
Income Categories and Length of School Day

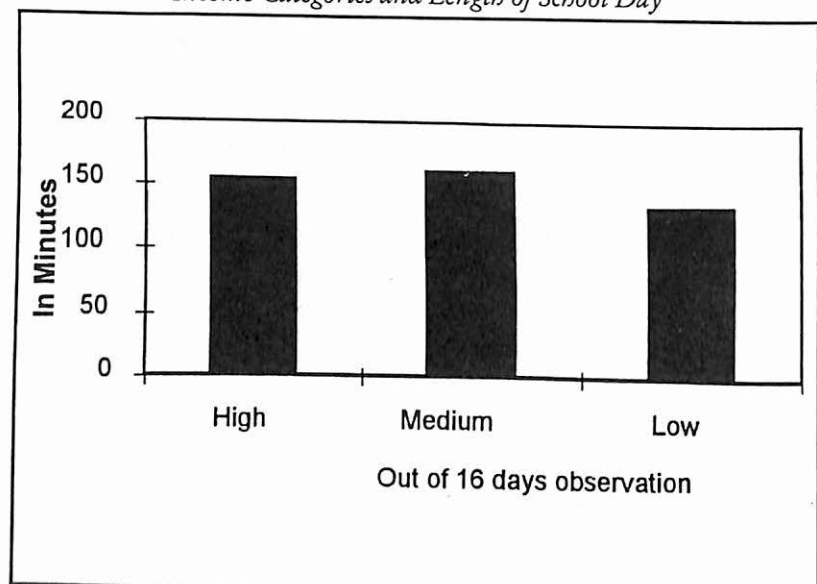


Figure 15
Income Categories and Educational Transaction

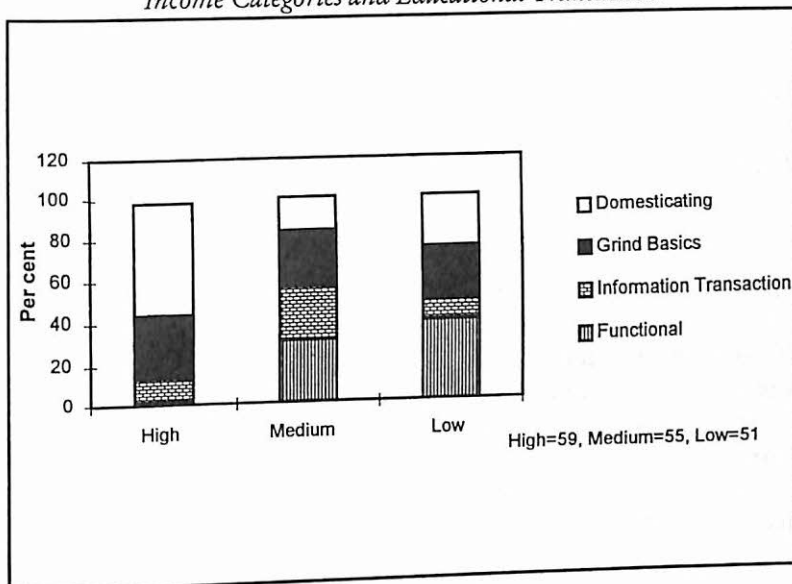
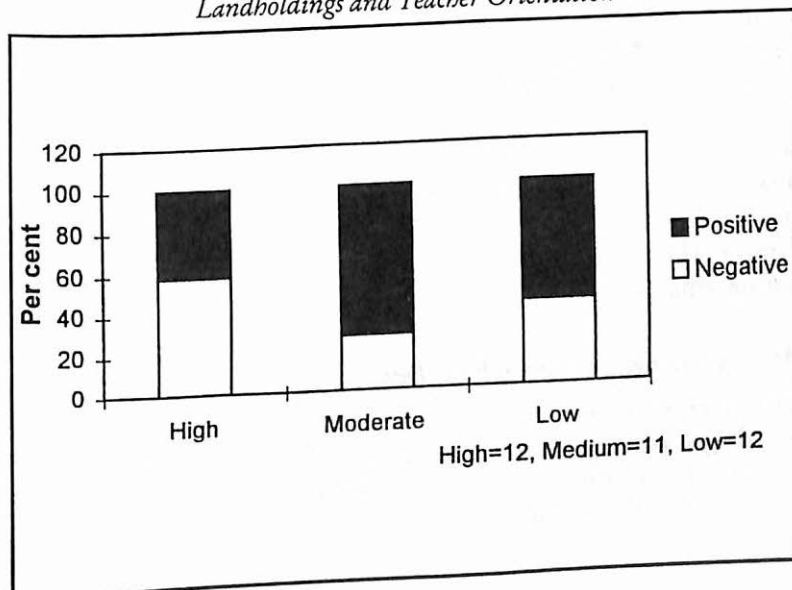


Figure 16
Landholdings and Teacher Orientation



(c) low unequal distribution of land (below 0.55). Borasandra (0.46), Channigappanapalya (0.51) and Yalanadu (0.52) fall into this category.

Given the above classification, the four parameters of the educational processes are compared using graphic representations.

Teachers' Orientation

We see from Figure 16 that the percentage of teachers with positive mind-set to educate the rural population, in schools located in villages with high inequality and low inequality of land distribution villages are 41.67 and 58.33 respectively. This means that three out of every seven teachers have a positive mind-set in schools of villages with medium inequality in land distribution.

The graphic representation in Figure 17 suggests that the percentage of teachers defining educational objectives as functional instruction type reduces with the increase in the inequality of land distribution in the villages.

Students' Attendance

Figure 18 illustrates that the students' attendance is almost equal during the first and fourth cycles in schools located in all the three land distribution categories of villages. The students' attendance record is low in the second cycle in schools with high inequality of land distribution villages which is equal to less than half of the students attendance in the first cycle. While students' attendance steadily improves in the third cycle with respect to schools in high and medium inequality in land distribution villages, it further drops in the case of schools located in low inequality in land distribution villages.

Average Length of the School Day

The average length of school day as seen in Figure 19, is the longest in villages with medium inequality in land distribution. There is not much variation between the length of the school day in schools located in villages with high and low inequality in land distribution.

Figure 17
Landholdings and Teacher Objectives

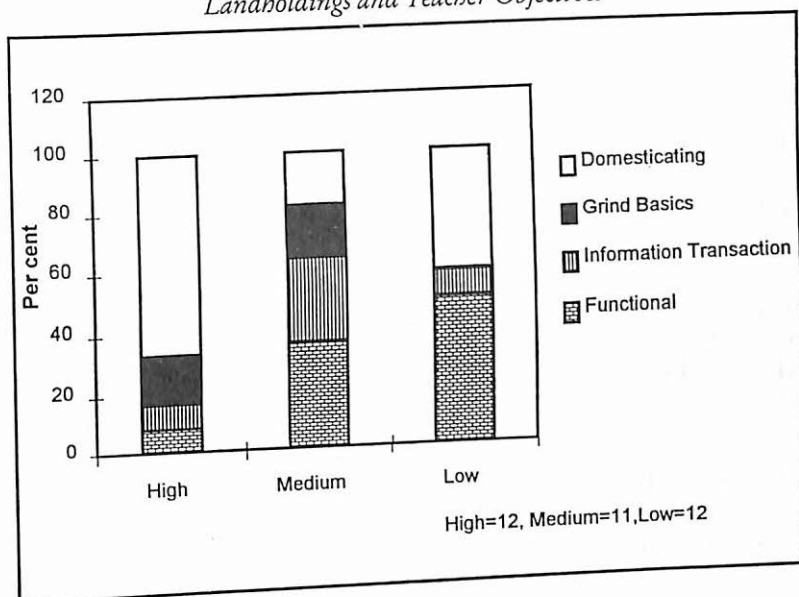
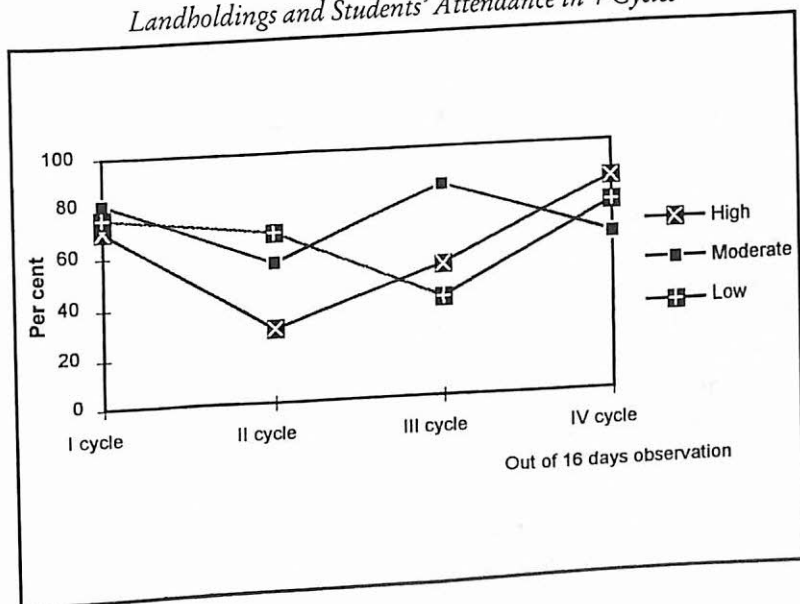


Figure 18
Landholdings and Students' Attendance in 4 Cycles



Educational Transactions

Figure 20 shows that the percentage of learning episodes classified as functional instruction type decreases with the increase in inequality in land distribution.

Educational Processes and Caste

Classification of Villages Based on Caste

The nine cases selected for in-depth study have been located in villages that represent the three caste categories. Caste based categories have been used in the first part of the study to examine the distribution of the educational facilities among different village types.

The comparison of the four parameters of educational processes with the three caste categories, namely, (a) single/two caste village type; (b) diversified caste village type; and (c) SC/ST concentrated village type are presented graphically.

Teachers' Orientation

Figure 21 shows that three-fourths of the teachers belonging to schools located in single/two caste and diversified caste villages show a positive mind-set. Less than 20 per cent of the teachers in schools serving SC/ST concentrated villages have positive mind-set towards educating the rural population.

Figure 22 shows that the percentage of teachers defining education objectives as functional instruction reduces when one moves from single/two caste to diversified caste type and is practically absent in the SC/ST concentrated village type. The reverse trend is noticed with respect to domesticating category of educational transaction.

The comparison of teachers' orientation across caste-based village types shows a marked difference of teachers' orientation of the scheduled castes/tribes concentrated village type with that of the other two village types.⁸ The schools that serve the scheduled castes/tribes population are taught by teachers with a negative orientation that becomes an important factor in preventing these

Figure 19
Landholdings and Length of School Day

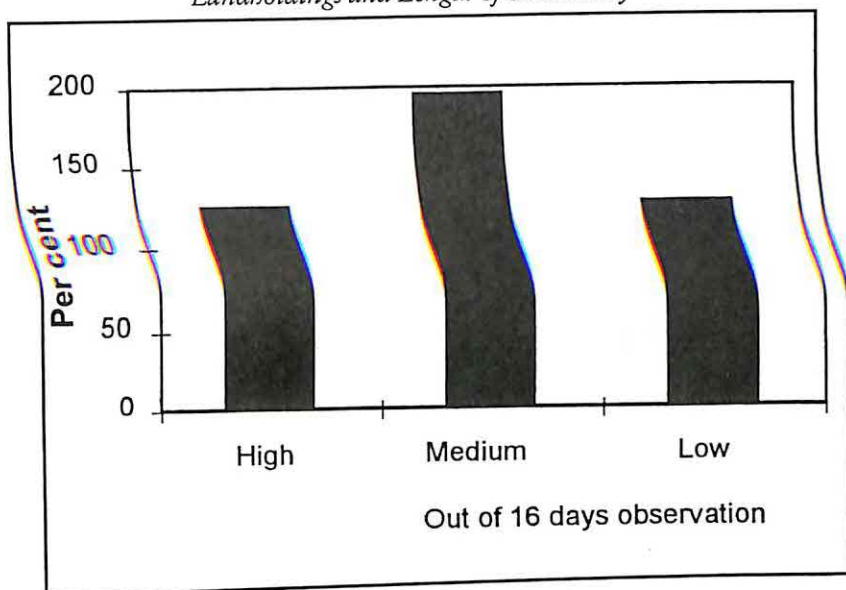


Figure 20
Landholdings and Educational Transaction

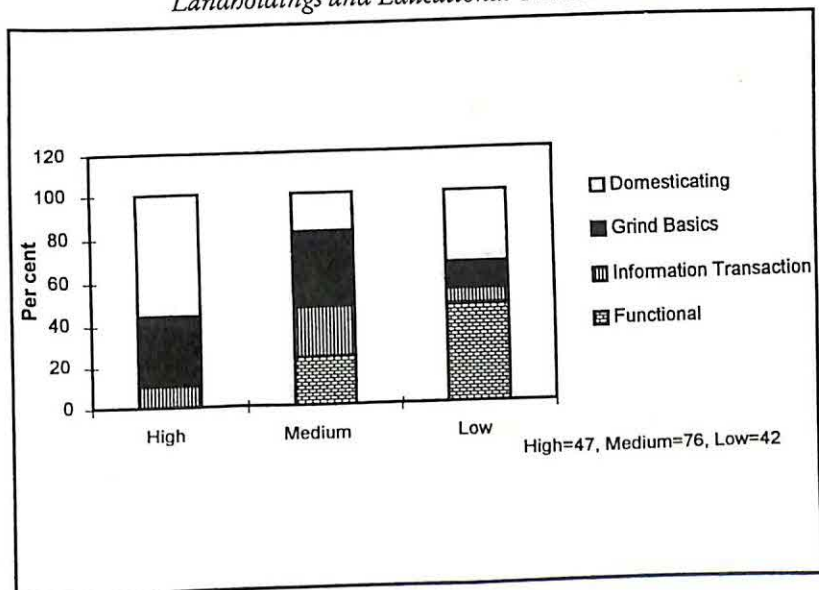


Figure 21
Caste Categories and Teacher Orientation

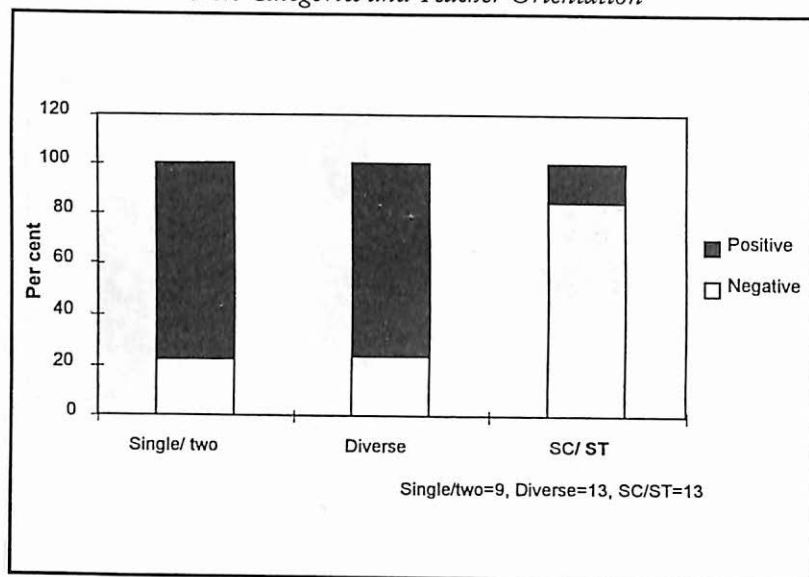
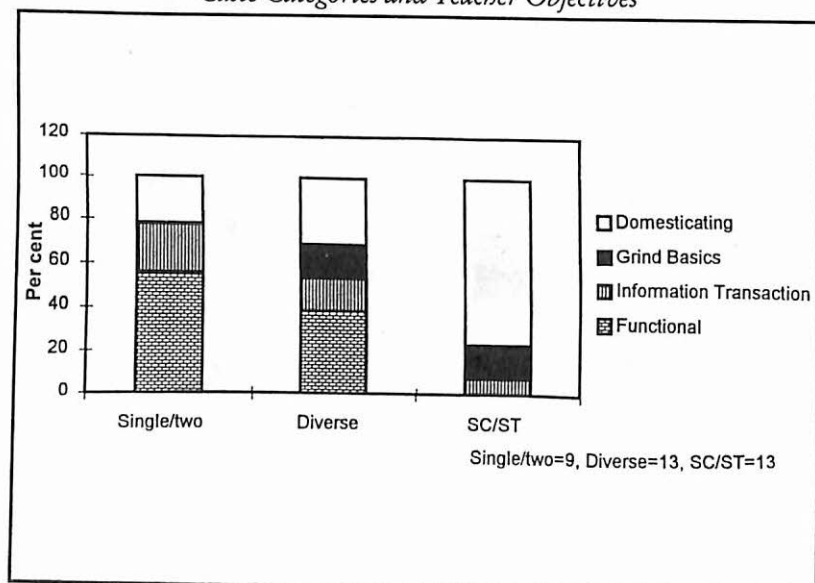


Figure 22
Caste Categories and Teacher Objectives



children from entering the formal educational system.

Students' Attendance

Figure 23 indicates that the variation in the students' attendance is less in schools of single/two caste villages and diversified caste villages. However, the schools in both these types of villages record the lowest student attendance in the second cycle. The students' attendance in schools located in SC/ST concentrated village type reduces during the agricultural seasons (second and third cycle) and later, shoots up in the fourth cycle. Since the peak agricultural season is between August and December, most children of schools located in SC/ST concentrated village belonging to the farming community join the family labour. In addition, it has to be noted that their services are drawn not always to directly work on the farm, but to help in household chores including caring for the younger siblings.

Average Length of the School Day

Figure 24 illustrates that the average length of school day is almost same in schools located in single/two caste villages and diversified caste villages while it is comparatively lower in schools located in SC/ST concentrated villages.

Educational Transactions

In Figure 25, the pattern of distribution of the learning episode with different educational transaction types shows that the functional instruction type of educational transaction is maximum in single/two caste villages. It reduces in the case of the diversified village and is the least in the case of SC/ST concentrated villages. As a corollary, the domesticating type of educational transaction is maximum in schools located in the SC/ST concentrated villages and the least in the case of single/two caste village type.

It can be discerned from the above analysis that the variation observed in educational processes can be explained, to a greater extent, by the caste and occupational characteristics of the village in which the school is functioning. The examination of the cases categorised on the basis of occupation and caste indicates that there

Figure 23
Caste Categories and Students' Attendance in 4 Cycles

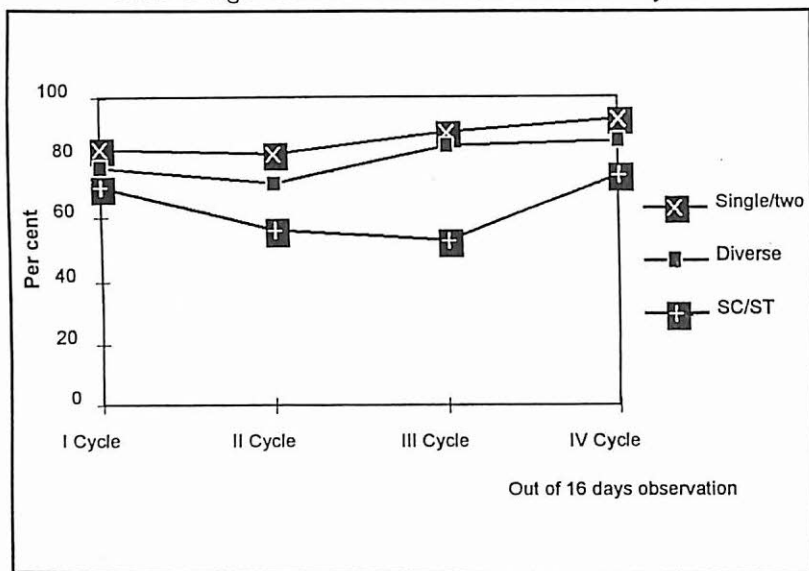


Figure 24
Caste Categories and Length of School Day

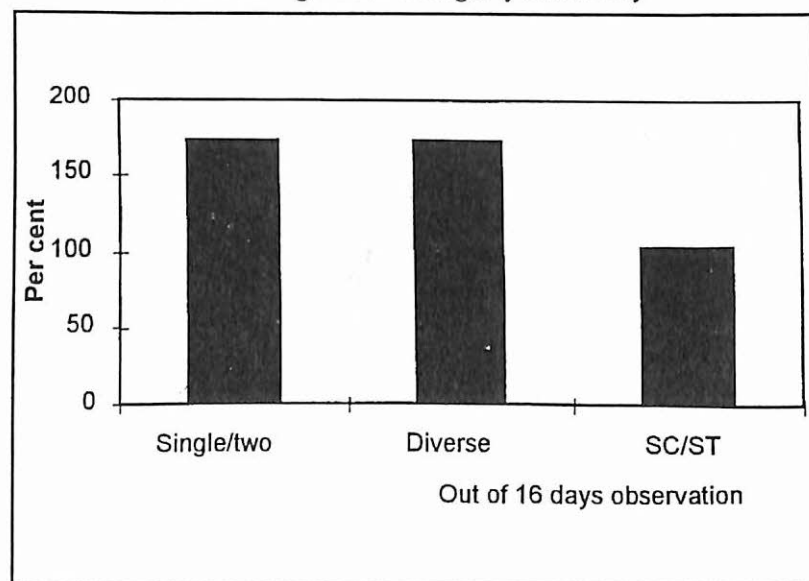
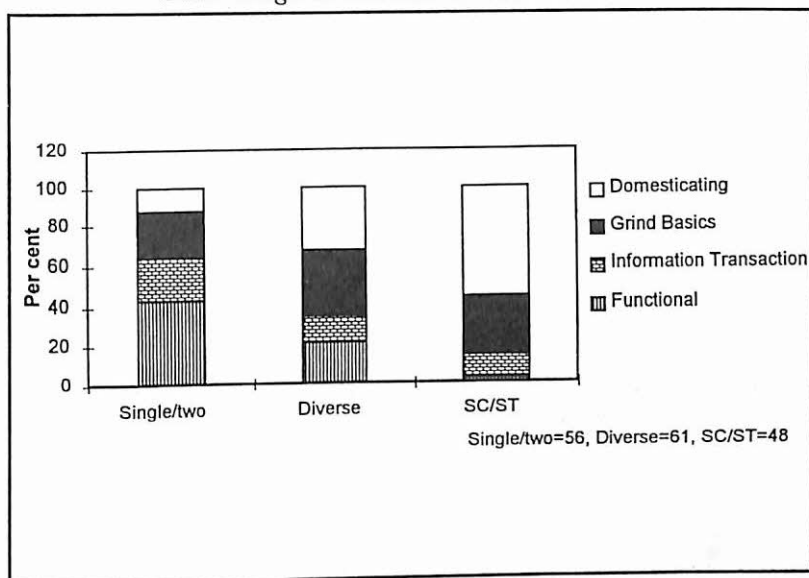


Figure 25
Caste Categories and Educational Transaction



exists a greater overlap between the two classifications. Since caste happens to be the more enduring base of the social structure, and forms the basis of occupational categorisation, one can say that the caste structure interacting with education is more pronounced than any other more visible factors. The other forms the basis of stratification, interacting with the education system emerging out of the above interaction. To examine whether the individual level of educational attainments varies with village characteristics, the comparison is confined to the caste structure of the village. Therefore, the performance of students on an achievement test is compared with caste-based categories of villages.

Educational Outcomes and Caste-based Village Types

It is argued earlier that the educational processes vary among different village categories. It is also found that among all the characteristics it is the caste composition of the village that explains the variation in educational processes more completely than the others. Given the variation of the educational processes, the study seeks to examine whether the educational outcome in terms

of students' achievement also reflects this variation. A hypothesis is proposed in this regard to see whether the performance of children in schools differ among different categories. This section is devoted to examine the difference in performance by testing the following hypotheses using one way analysis of variance followed by t-tests:

1. There is no significant difference in the means of achievement scores of students in Mathematics among the three caste-based categories of villages.
2. There is no significant difference in the means of achievement scores of students in Environmental Science in the three categories of villages.

The level of significance taken for accepting the hypothesis is 0.05 level in the case of both F and t-tests, using village categories as the independent variable and individual students as the dependent variable.

Table 7.5

*One-way Analysis of Variance of Achievement Scores in Mathematics
Among the Caste-based Village Types*

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	22,030.61	11,015.30	15.99	0.0000
Within Groups	51	35,113.26	688.49	-	-
Total	53	57,143.80	-	-	-

Table 7.5 gives the result of the analysis with respect to Mathematics. From this table, it is clear that the obtained F-value of 15.99 is greater than the theoretical value of 3.18 and therefore, it is significant at 0.05 level of significance. Thus, it can be inferred that the students of schools located in different categories of villages performed differently in Mathematics test.

To find out if the achievement scores differ significantly among the three groups, t-tests have been conducted for the achievement scores in Mathematics between the following groups:

1. Single/two caste and diversified caste village type.
2. Single/two caste and SC/ST concentrated village type.
3. Diversified caste and SC/ST concentrated village type.

Table 7.6
*Comparison of the Achievement scores in Mathematics
 Among Caste-based Village Types*

	<i>Single/Two Caste (1)</i>	<i>Diversified Caste (2)</i>	<i>SC/ST Caste (3)</i>
Mean	61.5	50.16	14.52
N	14	19	21
S.D.	27.91	34.58	13.17
S.E.	7.46	7.93	2.87
t between groups 1 & 2 = 1.01			
between groups 1 & 3 = 6.71*			
between groups 2 & 3 = 4.39*			

* significant at 0.05 level

From Table 7.6, the comparison of the means of the achievement scores in mathematics among the students, belonging to the above three categories of villages, shows that the students of schools in the single/two caste village category and the diversified caste category are better than students studying in schools in the SC/ST concentrated villages. It may be noted that the means with respect to students in single/two caste village type is higher than the diversified caste village type though not statistically different.

The obtained t-value of 6.71 and 4.39 are greater than the theoretical value of 2.03 and 2.02 respectively, for 33 and 38 degrees of freedom at 0.05 level of significance. Hence, it can be inferred that the means of the achievement scores of schools differ significantly between the diversified caste villages and SC/ST concentrated villages. Similarly, the achievement scores between single/two caste villages and SC/ST concentrated villages vary significantly. Apart from the statistical significance, if the means are arranged in descending order, schools located in single/two caste villages have a higher mean followed by the schools located in diversified villages and the schools in SC/ST caste villages at the lower end.

Table 7.7
*One-way Analysis of Variance of Achievement Scores in
 Environmental Science Among Caste-based Village Types*

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	85,736.34	42,868.17	16.15	0.0000
Within Groups	51	1,35,371.66	2,654.35	-	-
Total	53	2,21,108.00	-	-	-

Table 7.7 gives the result of the analysis with respect to environmental science. The obtained F-value of 16.15 is greater than the theoretical value of 3.18 and hence, is significant at 0.05 level. Thus, it can be inferred that the difference in the mean of the achievement scores in environmental science is significantly different among the single/two caste, diversified caste and SC/ST concentrated villages.

To find out if the achievement scores differ significantly among the three groups, t-tests have been conducted for the achievement scores in environment science between the following groups. (a) Single/two caste and diversified caste village type; (b) single/two caste and SC/ST concentrated village type; and (c) diversified caste and SC/ST concentrated village type.

Table 7.8
*Comparison of the Achievements Scores of Students in
 Environmental Science Across Caste-based Village Types*

	Single/Two Caste (1)	Diversified Caste (2)	SC/ST Caste (3)
Mean	118.43	94.37	25.09
N	14	19	21
S.D.	64.16	65.51	15.17
S.E.	17.15	15.03	3.31

t between groups 1 & 2 = 1.05

between groups 1 & 3 = 6.45*

between groups 2 & 3 = 4.71*

* significant at 0.05 level.

From Table 7.8, the comparison of the means of the achievement scores in environmental science among the students belonging to the above three categories of villages shows that the students in schools located in the single/two caste villages and the diversified caste villages are better than students studying in schools of the SC/ST concentrated villages. It may be noted that the means with respect to students in single/two caste villages is higher than the diversified caste villages though not statistically different.

Based upon the t-test, it is seen that the students studying in schools located in villages with more of SC/ST population perform poorly as compared to other types of villages in both mathematics and environmental science.

The earlier analysis of educational processes has also shown that most of the indicators like teachers' orientation, attitudes and definition of education, class room education transaction, average length of the school day, students' attendance are negatively associated with the schools located in SC/ST concentrated villages. The case studies also demonstrate that the educational system reproduces the *status quo* of rural social structure by creating advantageous conditions and processes for students from the upper echelons of rural social structure.

Notes

1. One of the villages, classified as low concentration of traditional occupation.
2. The two categories referred here are villages with moderate and low concentration of traditional occupations.
3. 82, 90 and 96 per cent of the households in Balanapalya, Hodalur and Borasandra respectively belong to the farming community. These percentages include farmers and labourers.
4. A considerable number of primary school children in rural areas are first-generation learners. Hence, learning for them is largely confined to the classroom with little or no assistance in learning at the home front.

5. These schools have 58 and 30 per cent of the learning episodes classified as domesticating/shepherding and grinding in basics.
6. The data on literacy is confined to the head of households.
7. The village type is based on the distribution of households in a village according to the percentage of literates of the heads of households.
8. Here, the two village types refer to the single/two caste village type and the diversified village type.

Conclusions

The school is a reflection of the society within which it is located. And, Indian schools reflect the rural society characterised by caste based inequalities where the caste-class nexus tend to decelerate the process of social mobility. In this situation, formal education plays an important role in the perpetuation of this existing system and it is argued in the introductory chapter that the educational system reproduces the *status quo* by reinforcing the dominant ideology and social stratification.

Focusing on the educational processes, this book explains the nature of this reproduction with the help of a model that examines the school-community interaction. We have also drawn attention to the fact that rural communities are not homogeneous: they vary in terms of the caste composition and the associated socio-economic characteristics. It is found that the influence of community characteristics¹ is more pronounced on the educational processes than the variations in the educational facilities² across different sections of the society. Such variations in educational processes are a significant aspect of this entire study as they function to reproduce the dominant social structure. This function is best understood in a rural context where the quality of educational process is examined in villages of different caste composition.

This last chapter draws the summary of arguments, substantiation of the same, with brief description of the salient findings and

policy recommendations that emerge out of the study.

Key Arguments

The endeavour of this study has been to investigate the second level of differentiation³ in school quality and the nature and form of its manifestation in rural society. Most research studies and official data reveal that lack of educational facilities⁴ is singularly responsible for the poor quality of education in rural areas. The emphasis, therefore, has been to invest in improving the educational facilities. This has led to the introduction of various schemes, of which the most popular has been the Operation Blackboard⁵—with an emphasis on improving the educational facilities. However, the implementation of these schemes did not have any visible impact. The rural schools are still ill-equipped and we see that there is very little variation in educational facilities except in the number of teachers⁶. But this has less relevance in rural context where multi-grade teaching is the rule rather than an exception, for which most of the teachers are ill-equipped in terms of training and qualifications.

Teaching learning process in Indian rural schools is overwhelmingly teacher oriented⁷ (Kumar, 1989). In rural primary schools, practically for all reasons, the teacher is the only resource and hence forms the centre of the entire functioning of the school. This study focuses on the influence of teacher's style of functioning on the educational outcomes of children, especially of those from the lower socio-economic background.

Further, the teachers in the rural schools do not function in isolation as schools in rural areas are not independent of the community within which they are located. Hence, the interaction between the teacher and community *vis-à-vis* parents of children is a determining factor of school quality. Most often, children in rural areas, especially from the poor households, are first generation learners with learning activities confined only to the classrooms making the role of the teacher all the more significant. Therefore, the school quality in these schools rely on the educational process characterised by the teacher and her/his style of functioning, reflecting the school community interaction.

Research in the field of education also reflects this bias with a

majority of the studies in educational quality focusing on access to higher education and very few researches at the school level. Irrespective of the levels, majority of them used samples from the urban population. Few studies have focused on the physical facilities in terms of inputs or student achievement as educational outcomes, using individuals as units of analysis.

However, during the recent past, researchers and policy analysts in the area of quality education have drawn attention to factors operating within schools that directly affects educational deprivation (Nambissan, 1996; Banerji, 1997; Bhattu, 1998a and b; PROBE 1999). It is being increasingly recognised that schools cannot function as monolithic institutions and be independent of the community, from which it draws its learners (Vasavi, 1994). These studies have also reiterated that there is an inherent limitation in the input and output approach to understanding the system of schools. What is required is an adequate understanding of the processes in which schools function. The processes are influenced by a range of factors like the teacher orientation, school-community relationship, teacher-student interaction, educational transaction, active instructional time and the variation of students' attendance. In this book we have addressed these issues to arrive at an informed understanding of the nexus between school and its social environment.

The significance of community factors in understanding the functioning of school is brought to the fore by the initiatives of non-governmental organisations⁸. The role of teacher motivation, better school-community relationship, community centered accountability mechanisms and joyful learning have been the aspects on which these NGOs are working. A common feature of these initiatives is the identification of a substitute teacher from within the local community that the school serves⁹. Complementary findings have also helped to shift the attention away from poverty to factors that operate within the school that discourage participation of children in formal schooling in rural areas to educational processes within the classroom.

It is also found that very few studies have concentrated on school-community interaction. One reason for this may be that most studies tend to focus on urban schools and it is difficult to op-

erationalise the community-school linkage in urban contexts. This study has been undertaken to study the functioning of schools, in village communities, considering the interaction of the social and economic factors within the village and the school. The main objective was to obtain a deeper insight into the nexus between the social factors, especially that of caste and education.

Thus, the study defines schools in the context of communities and examines the functioning of schools *vis-à-vis* the community. The study has adopted a combination of methods so that the strengths of these methods facilitate a comprehensive understanding of the dynamic nature of school-community interaction affecting school quality. At the first level, official statistics were surveyed to identify the research gaps. A detailed questionnaire was developed, to collect information on school quality that could be quantified. The educational facilities consisted of 42 variables. These variables were grouped under twelve broad areas. This is supplemented by the case studies wherein the importance of community characteristics in the functioning of schools is highlighted. A significant aspect of this study is its heavy reliance on qualitative information that gets substantiated in the analysis of the qualitative data. The analysis of both quantitative data and qualitative data highlights the following issues.

Summary Findings

Educational Facilities

Nearly 90 per cent of the rural schools of the study area irrespective of being an upper or lower primary school have *pucca* buildings. Of these, 75 per cent schools have a built-in area per student of less than 12.21 square feet, which is far below the prescribed norm of classroom size. More than 60 per cent of the rural schools, do not have a playground of their own. About 90 per cent of the rural primary schools do not have drinking water¹⁰ and toilet facilities.

Most rural schools in the sample are provided with at least one room of reasonably good construction. Teaching is predominantly confined to the classrooms. Hence, restricted space inside classrooms results in students being crammed. Very often, the number

of rooms in a school is less than the number of teachers. Conversely, if there are sufficient rooms, the number of teachers falls short of the number of standards. Either way, the situation is that students of different standards are seated in the same room. Crowded classrooms lead to students' indiscipline and classroom management becomes a major preoccupation of teachers.) The amount of attention a teacher gives to disciplining students is disproportionately high when compared to student learning. Absence of teaching essentially means non-engagement of students resulting in indiscipline. This is a cyclic process. Essentially, the preoccupation of the teacher with classroom discipline, suggests that in practice, teachers reduce learning time in order to keep the pupils firmly in control.

Nearly 75 per cent of the rural schools have an annual per pupil expenditure of less than Rs. 10, apart from the teachers' salaries. And 70 per cent of the rural primary schools surveyed have less than four books per pupil that are hardly circulated among students. The availability of teaching aids in the rural schools also presents a dismal picture. Not a single school has a science kit. About two-thirds of the upper primary schools do not have even a map of India. The only teaching aid present in at least 50 per cent of the schools is the textbook. Except for the facility of Kho-Kho, in 50 per cent of the upper primary schools, the rest of the schools do not have any sports facilities.

Hence, resources both human and material pose a serious constraint for rural primary education. As discussed earlier, higher financial allocation for primary education is not a national priority¹¹. The low per pupil expenditure in itself reflects the poor state of rural schools, characterised by skeletal teaching aids and sports equipments. The incremental increase of education expenditure has to accommodate the rise in teachers' salaries¹² leaving very little for improving the quality of primary education that reflects the low levels of learning (World Bank, 1997). Field experience, and the findings¹³ of the study, reveal that quality improvement in primary education is customarily equated to construction of school building.

About 67 per cent of the primary schools are single teacher

schools and 70 per cent of the upper primary schools do not have one teacher per standard. This leads to multi-grade teaching a predominant mode of transaction in rural schools. Nearly 75 per cent of the schools have a teacher-pupil ratio of less than 1:35. The educational and professional qualification of teachers is limited to SSLC and TCH in all sample schools. In 70 per cent of the schools, not a single teacher had attended in-service training for three concurrent years ending 1991.

The Chi-square value¹⁴ on the educational facilities, viz., physical facilities, teacher pupil ratio, teacher qualifications, teaching learning materials, etc., do not vary significantly among different villages studied. In other words, the frequency of distribution of educational facilities¹⁵ does not vary significantly among different village types.

In summary, it can be inferred that the high percentage of single teacher schools¹⁶ and multi-grade teaching¹⁷ in rural primary schools is a far more serious issue of relevance. Although most of the schools have better teacher-pupil ratio of 1: 35¹⁸, it hardly makes a difference to the school's quality due to the above two factors. More importantly, it is the teacher-standard ratio depicting multi-grade teaching that determines the quality and effect of classroom transactions. The absence of training for teachers in dealing with multi-grade teaching directly affects the educational processes within the classroom. Since most trained teachers are absorbed in rural schools, multi-grade teaching¹⁹ has to find a central place in teacher training. Teachers equipped with skills in multi-grade teaching will find it easier to apply their skills in one teacher-one standard context. But the converse is more difficult.

From the above analysis, we find that differences in educational facilities are not the influencing factors in determining school quality. This leads us to understand the factors underlying student achievement among different village types. A comparison of the means of the criterion reference achievement test²⁰ reveal that students' performance of single/two caste village type and the diversified caste village type are significantly different from that of the SC/ST concentrated village type. It is found that the former groups perform better than the latter. By using the data from case studies of nine sample schools, explanations were sought on the

observed differences in student achievement among the three village types.

Factors Determining Variations in Student Achievement Among Village Types (Analysis of Case Studies)

The quality of the educational process in rural primary schools has been described using the seven parameters that emerged from the fieldwork. They are:

1. Teacher orientation
2. School-community relationship
3. Average length of the school day
4. Attendance of students
5. Teacher-student Interaction
6. Educational transactions
7. Co-curricular activities

Teacher Orientation

Teacher orientation is an important dimension of school quality since it has a direct bearing on the teacher-student interaction. It is examined at two levels, viz., the mind-set regarding the meaning of education for the rural population; and definition of educational objectives. The teacher orientation is based on the expressed and inferred opinions elicited/observed during the case study process. During our interaction with teachers, some of them have openly remarked that formal education is not useful for the children of the lower castes. According to them, "...these children, (whose future is already determined by the teacher), are 'good for nothing' ". These teachers support their argument by citing instances among children of those communities who have discontinued schooling and working as agricultural labourers in the same village. On the other hand, there are few teachers who base their opinion and their interaction with students on the premise that education is useful to an individual irrespective of her/his caste. These teachers are characterised by commitment to their jobs and believe that all children can learn. They demonstrate a positive approach and use alternative devices to ensure effective student learning. Invariably

such teachers are popular among students and parents. Based on this observation, the sample teachers are classified into two broad categories, i.e., teachers with positive attitude and teachers with negative attitude.

Of a total 35 sample teachers, nearly equal number exhibit positive and negative attitudes towards the education of the lower caste children. Most teachers with a positive attitude are concentrated in schools that have been able to develop a positive school-community relationship. It is difficult to infer if the attitude of the teacher influences the school-community relationship or *vice versa*. However, it is discernible that positive attitude of the teachers and healthy school-community relationship contribute to better school quality. A significant determinant of 'the mind-set of teachers towards the education of the rural population'—is the caste affiliation of the teacher. Further, the residence of the teacher also becomes a contributing factor in developing a positive attitude. As does the caste factor, the place of residence also imbibes a sense of belonging and accountability among the teachers. Most teachers with positive attitude are those who have long years of association with the school. Teachers with a positive teacher orientation have a majority of the educational transactions categorised as information transmission or functional instruction. Educational transactions that are classified into the above two types are directed to prepare students to be a part of the formal educational system. The educational transactions are geared to the transmission of textbook information in the former, and development of lower order analytical skills in the latter. Conversely, teachers with a negative attitude have their learning episodes predominantly classified in the lower two categories of educational transaction, namely, domesticating and grinding basics. Among the educational categories that emerged from the study, domesticating is one of the most negative characteristics where the educational transaction is directed to keeping the children within the classroom without assigning any specific task. The emphasis in this category is student discipline through a process of fear instilled by the teacher. The absence of learning activity, accompanied by silence²¹ equates this to herding, is a characteristic of this educational transaction.

School-Community Relationship

In the rural context, the school-community relationship has a major role to play in creating a demand for quality education in the rural context. Unlike stereotypical beliefs²², the problem of primary education in India is essentially the inability of the clientele to demand quality education. Many non-governmental organisations, in stark contrast to government interventions, have demonstrated the positive impact a healthy school-community relationship can have on the functioning of primary schools. Schools, and in particular the teachers, can play a positive role in fostering good ties with the community. For schools located in villages with a considerable number of households belonging to the scheduled castes and tribes, this becomes very significant. The teachers of these schools belong to the upper castes and do not entertain parent teacher interaction. Parents who visit schools are not treated well by the teachers. This discourages parents from visiting schools, which, in turn, negatively impacts school-community relationships. School-community relationship is positively correlated to quality of schooling despite the continuing limitations of rural schools including multi-grade teaching.

The school-community relationship is understood in terms of the following parametres: the perception of teachers and headmistress/master regarding their association with the community. The second aspect is the perception of the community of the functioning of the school. The third aspect is the practical operation of the school-betterment committee and lastly, the extent to which the school draws on the community resources. Following this, schools have been categorised and we have seen that the schools located in Yalanadu (a two-caste village), Kempanahalli, and Balanapalya (both multi-caste villages), fall into the category of cordial school-community relations. Four schools fall into the superficial school-community relationship category. They are Channigapapanapalya, Areyur, Brahmasandra and Hindisagere. The remaining two schools situated in Borasandra and Hodalur, both with a considerable number of households belonging to the scheduled castes and tribes, fall into the hostile school-community relationship. In the case of single/two caste villages and diversified caste villages, the community composed of the dominant castes,

who are the clienteles of schools located within the village, create a demand for quality education. The nature of this demand takes various forms including nurturing school community ties as well as ensuring the commitment of teachers. The teachers of these schools invariably belong to the upper castes. The community informs teachers in subtle ways to either change their attitude if negative or are forced to request for a transfer. This is the pattern observed in the distribution of schools located in different caste based communities or village types. This brings out very clearly that the communities with a relatively higher percentage of SC households are unable to create this demand. The reasons may be due to the historical disadvantage of these communities compounded with the fact that teachers who serve in schools located in SC concentrated village type belong to the upper castes. In most cases, the powerful communities in these villages believe that as formal education spreads among the lower castes, it will be increasingly difficult to keep them in the condition in which they are today.²³

Average Length of the School Day

The average length of the school day is a direct measurement of the actual time that a child spends in school. This is a crucial variable in determining the instructional time that is directly related to the learning of a child. Although the official length of a school day is five hours, the average length of the school day ranges from less than 40 minutes (Channigappanapalya) to 5 hours (Yalanadu). It must be pointed out here that though Channigappanapalya is a single caste village, the single teacher school had a change of two teachers in one year. Both these teachers did not stay in the village. This has contributed to the fact that this village, though a single caste village, has the shortest school day. The average length of the school day for the total sample of rural schools is 2 hours 29 minutes. By and large, the length of the school day in rural areas falls dismally short of the norms. The length of the school day is determined by several factors. The school in Yalanadu, a two caste village has a teacher for every class. Most of the teachers of this school have studied in the same school and have their children educated in the same school. Teachers in this school display a positive

attitude and have a healthy relationship with the community. They reside in the same village and take a keen interest in the curricular and co-curricular activities of the school. Although the school in Kempanahalli does not have a teacher for each class, the teachers reside in the same village and have a positive attitude towards teaching. Like Yalanadu, they have good school-community relationship and the teachers take keen interest in the school activities. The converse is true for the schools located in the two villages (Borasandra and Hodalur) with a considerable number of households belonging to the scheduled castes/tribes. The schools in the above mentioned villages have a shorter school day. A majority of these teachers do not stay in the village and belong to the dominant castes, displaying a distinctive negative attitude towards the education of the children of the lower castes. The school-community relationship in both these villages, therefore, is found to be hostile.

Attendance of Students

The average attendance of students in 4 cycles of observation in one year is as follows: (expressed in percentages) first cycle—80.55, second cycle—69.35, third cycle—74.8 and fourth cycle—84.34. The lowest attendance recorded is during the second cycle and the highest during the fourth cycle of observation except for the school located in Borasandra—with a considerable SC population. The attendance of the school in Borasandra characterised by negative orientation of teachers, who operated on a shift system, did not show an improvement in student attendance even towards the end of the year. The fall in attendance during the second cycle across all schools was due to the peak agricultural season, where children specially of the poorer households take part in the agricultural activities. The fall in the attendance during the second cycle is much steeper in villages that have a considerable number of SC households.

Teacher-Student Interaction

The school-community relationship is also reflected in the teacher-student interaction within the classroom. When the teacher-

student interaction is examined, three broad patterns emerge. One is characterised by general, pervasive/inclusive and positive teacher-student interaction. The second is characterised by differences among teachers in dealing with the students and teachers sharing positive orientation in the interaction on a selective basis. And, the third pattern is characterised, largely, by negative or hostile reaction to the students.

Schools of Yalanadu and Kempanahalli have been classified into the cordial teacher interaction. Areyur, Channigappanapalya, Hindisagere, Balanapalya and Brahmasandra schools fall under the category of teacher-student interaction specific to student characteristics. Hodalur and Borasandra show hostile teacher-student interaction. Teachers who have healthy school-community relationship as in the case of Yalanadu, a two caste village and Kempanahalli and Balanapalya, both multi-caste villages, are characterised by a positive teacher student interaction. The converse is found in the case of Hodalur and Borasandra with a comparatively higher representation of SC households.

Educational Transactions

Analysis of field observations reveals four distinctive categories of educational transactions. The description of each category is based on:

1. Structural dimension of the learning episode.
2. Direction and supervisory nature of the classroom activity.
3. Nature and extent of student participation.
4. Purpose served in relation to the learning episode.

The four categories of educational transactions evolved are Domesticating/Shepherding, Grinding in Basics, Information Transmission and Functional Instruction. The total numbers of learning episodes observed have been classified into the above four categories of educational transactions. The percentage distribution of these categories across the nine sample schools shows that 32.76 per cent of them are domesticating type, 28.48 per cent are of grinding in basics, 15.76 per cent are of information transmission, and 23.03 per cent are of the functional instruction type. The distribution of the different categories of the educational transactions

in the sample villages reiterates that the schools located in villages with a considerable number of SC households, i.e., Borasandra and Hodalur show the preponderance of the lower categories of educational transactions, namely, domesticating and grinding in basics. The emphasis of these categories of educational transactions is the disciplining of students. The amount of time spent for discipline related activities suggests that in actual school functioning hours, which is already less than the required norm of five hours, teachers reduce the learning time further by directing the available time in disciplining the pupils.

Co-curricular Activities

Out of the nine sample schools, four show the absence of CCA and another four of them show the organisation of CCA on an annual basis. The only school that has CCA on a regular basis is located in Yalanadu, a two caste village with most of the teachers drawn from the community.

The four quantifiable parameters of the quality of educational process²⁴ have been compared across different village types based on caste using graphic representation. However, the comparison shows that except for caste and occupation, the other structural attributes do not explain variation in the quality of educational process. It is also found that the caste and the occupation categories overlap, to a great extent (two cases of each category). Caste being a more enduring factor and typically, occupation being an outcome of caste category, the variation of the parameters of quality of educational process is summarised based on caste.

When the teacher orientations are compared among different village types, it is noted that a greater percentage of the teachers of single/two caste village type (55.56%) and diversified caste village type (38.46%) are pooled in the category of positive attitude towards the meaning of education to the rural population. The educational objectives are defined as either information transmission or functional instruction that are comparatively of a higher order in rural primary schools. Exactly the opposite may be said of the SC/ST concentrated village type. These villages show a high polarisation (75%) of the teachers who have a negative attitude towards the meaning of education to the rural population. The main

function of schools that have a majority of the teachers with a negative orientation is either to domesticate or in other words “herd children”.

When the length of the school day is compared across different village types, single/two caste and diversified caste village type have more or less similar values, that is, 2 hours 52.5 minutes and 2 hours 56.63 minutes respectively. The SC/ST concentrated village type, on an average, has a shorter school day of 1 hour 43.75 minutes. When the attendance of students is compared across the different village types it is observed that the SC/ST concentrated village type has an overall low attendance with a greater variation across different cycles of observation. In contrast, the single/two caste village type shows high attendance with less variation. When the percentage distribution of the different educational transaction categories is compared across the different village types, 56.25 per cent of the educational transactions of the SC/ST concentrated caste type fall under the domesticating category. In contrast, 42.86 per cent of the educational transactions of the single/two caste type fall under the functional instruction type. A noteworthy feature is that 85 per cent of the educational transactions of the SC/ST concentrated village type is the domesticating and grinding in basics category that is higher than the 61 per cent of educational transactions classified under the above two categories in the total rural sample. In these schools, discipline and order constitute the core curriculum.

When the achievements of students are compared among schools of different caste based categories, the comparison of the test scores of the minimum levels of learning in mathematics and environmental science (used as a teacher made test) reveal that the performance is comparatively high among the single/two caste village type followed by the diversified caste village type. The achievement scores of students in the SC/ST concentrated village type is extremely low. It is to be noted that the difference in the achievement scores among the villages has not been explained by the variation of educational inputs²⁵ but by the variation in the educational processes.

Review of Findings

The approach of the study has been to understand the reproductive role of the formal educational system from a conflict perspective. This perspective examines the response of education to the demands of the power structures resulting in the maintenance of the *status quo*. The power structure in the context of our study is the caste based social stratification. The problem has been posited in the rural context as an extension of several surveys conducted as a part of a larger study by the Institute for Social and Economic Change, Bangalore (1978, 1989) on a representative sample in Tumkur district of Karnataka. These studies indicate considerable differences in the distribution of community characteristics among different village types. These village types represent differential manifestations of rural power structure operating around various caste groups (Nagaraju and Ramachandran, 1991).

This study has gone deeper into this to comprehend the underpinnings of this variation among rural schools and the dynamics of caste factor in school-community relationship. The important questions in this regard are: What contributes to differences in the behaviour of the school system? Is it the distribution of educational facilities that leads to the difference in performance of students or is it the behaviour of teachers that determines the educational outcomes? And, how does the school-community interaction contribute to the differences in school performance? To capture the nature of interlinkages between these questions, the study has been designed in two phases.

The first phase addresses the question of differences in educational facilities among the sample schools in Tumkur District. Considering the distribution of the educational facilities in rural areas, the following information has been drawn.

In general, rural schools present a picture of homogeneity with regard to educational facilities since these schools are provided with minimum facilities—single teacher and a building. Multi-grade teaching is a common phenomenon in these rural primary schools, where one teacher has to handle more than one class simultaneously. These schools have poor health and sanitation facilities. The issue of library books is a rare phenomenon in primary schools. The absence of teaching materials, e.g., syllabus, and

handbook also form a common characteristic of these schools. The primary schools have not been provided with any sports equipment. The teachers are undergraduates with TCH training and the almost total absence of in-service training among these teachers impairs them to adapt to the culture-specific needs of their clientele.

As the rural primary schools are characterised by poor educational facilities, there is hardly any variation among schools located in different village types. However, there exists a variation in the educational outcomes in relation to the village types. Students belonging to schools located in single/two caste villages and diversified villages have better achievement scores than students belonging to schools located in villages with a considerable number of SC households. The educational facilities are found to have no significant relationship with the educational outcomes measured by the criterion reference test that was administered to the students of Standard IV.

The differences in the learning by children examined with school as a unit of analysis varies among the sample villages, which cannot be explained by the observed variation in educational facilities. This leads to the pertinent question of the relationship of teacher's performance to the educational performance of students given the bare minimum facilities. Reiterating, 'is it the teacher and her/his style of functioning which explains the variation in the educational performance of students?'

The second phase is intended to explain the difference in outcomes with the variation in educational quality processes. This is captured through the analysis of the quality of educational process taking place in schools located in different types of villages using the method of case study. From the survey, it is learnt that the outcomes differ among the sample villages and educational facilities do not seem to have any influence on the educational outcomes. Therefore, the case studies aim at explaining the difference in students' achievement scores among the villages. The case studies have been carefully selected to represent the caste based village types in the study area. Three cases from each type have been selected for detailed observation and informal interviews have been conducted with the teachers for an entire academic year using time-sampling, amounting to sixteen days of observation in each school.

The qualitative data thus, obtained include information on educational transactions; school-community relationship; teacher orientation; attendance of students; the average length of the school day and organisation of educational activities to achieve non-cognitive objectives. Distinct categories have been derived by classifying and reclassifying meaningful episodes as classroom teaching, teachers' utterances, incidence of interaction, etc.

This has provided the identification of factors that can describe a rural school in the country. These factors are: teacher orientation, fluctuation in students' attendance, length of the school day, educational transaction, school-community relationship, teacher-student interaction and organisation of co-curricular activities. Many of these factors do not lend itself to quantitative analysis, yet are significant in determining the school quality in a rural context. As this study has pointed out, the variation in school quality among the rural schools is not attributable to the availability of infrastructural facilities, but to the difference in the educational processes represented by the above mentioned factors that facilitate the reproduction of the existing social structure.

This analysis has also yielded profiles of educational processes taking place in each of the cases. These school profiles are placed against the respective community characteristics to obtain the school-community profiles. These profiles are compared among the villages characteristics like caste structure, occupational status, land distribution, distribution of income and variation in the educational levels of heads of households.

The analysis of educational processes also indicates that most of the dimensions like teachers' orientation, attitudes and definition of education, educational transaction, average length of the school day, students' attendance are negatively associated with the schools located in SC/ST concentrated villages. Such associations have been brought out in the descriptive analysis of different village types.

The findings, in this regard, reveal that the village characteristics individually explain the variation in the educational processes. One of the major findings is that the caste distribution of the households in the village can explain the variation in almost all the parameters of the educational processes.

When the mean achievement score in Environmental Science of Standard IV is compared among the villages, the single/two caste type and diversified caste villages performed distinctively better than the SC/ST concentrated villages. It is also to be noted that the students of single/two caste village type perform comparatively better than the diversified caste village type.

Policy Implications

The society and the formal educational system operate as two different worlds separated by a space of historically contingent power structures that demarcates the less privileged from the privileged. Hence, the individuals entering the formal educational system tend to get filtered by the access to this space. Historically, entry to this space has been selective in nature, defined by a social structure that is determined by the caste system. The various affirmative measures undertaken by the government have legally eliminated all the discriminatory aspects associated with the caste system. However, the educational system is still perpetuating its selection function right from the lower level. In urban areas, this exists predominantly in the form of schools with different curriculae and medium catering to different sections of the society. Further, teachers who are the key actors in primary education do not share the constitutional value of providing equal educational opportunity to all. This is reflected in their interaction with students as well as the community. The impact of this negative interaction on the underprivileged sections is the exclusion of children of these communities from formal education, ensuring the reproduction of the social structure. This, in a way, is a failure of the educational system, and particularly of the training programme of the teachers, that do not lay emphasis on values like equality and sensitivity to different cultures. Moreover, the reality is that the resources within the system are grossly insufficient and even that is not equitably distributed.

Moreover, the arrangement of school timings and the vacation are decided at the power centres that most often, may not be appropriate for the local conditions. Attempts to change the school calendar as well as school timings in some of the District Primary Educational Programme on an experimental basis met with stiff re-

sistance from the teachers' unions. This is not surprising given the fact that the teachers who serve in rural schools most often do not belong to the community that they serve. Hence, the education system with its elaborate bureaucracy accommodates the demands of the teaching community that is relatively powerful *vis-à-vis* the community. Finally, these teachers who are largely trained in colleges that are located in cities and towns are not equipped with skills in handling multi-grade situations. Such situations are a norm rather than an exception in the rural context.

In the light of the above observations, it is imperative that there should be a structural change in the educational system. The management of compulsory primary education should be separated from the existing administrative structure and should be decentralised at a viable level, like the districts. The teachers' training programme should be designed to equip teachers to respond to cultural specificity of local communities. The focus of the training has to be rural schools as the majority of the primary schools are located in rural areas. It may also be noted that most of the teachers who pass out of training colleges are likely to be absorbed in the rural context. In the coming years, demand for teachers will emanate from maintaining the existing school provisions and the large scale expansion needed in rural areas to cover 30-40 per cent of children not attending the school. This will be essential in realising the fundamental right to education.

All these years the teachers' training programme was based on rigidities of content and form. There should be a creative redefinition of the roles of teachers that lends itself to equip teachers to function in multiple contexts. Hence, a conscious attempt should be made in the training programme to orient the teachers with the constitutional values, and prepare them to positively respond to the community. In the process, the excessive attention paid to the supply factors of the educational system can be shifted to the demand that communities can create for quality education. Thus, the state responsibility of universal primary education will be restricted to financial allocation and the administrative support required to run these primary schools. The nature of support, however will be in accordance to the demands of essentially the community and teachers, who will be incharge of the day to day

functioning of the school at the local level. This approach will be along similar lines to successful initiatives of non-governmental organisations. The advantage of this approach is the potential it has regarding sustainability and the scale of operation in the long run.

An intensive recurring in-service training programme should be taken up for the teachers working in rural schools specifically to sensitise them in responding to children who are first-generation learners. Such training should aim towards changing the attitudes of teachers and giving them skills in multi-grade teaching.

Micro planning at the block level, keeping each village as unit of analysis, should be built into the functioning of educational management. This will ensure locale specific arrangements for both formal and non-formal activities in primary education. A serious attempt will have to be made in building a symbiotic and enriching relationship between schools and communities. In the Indian context, the participation of the community in school activities and *vice versa* will have to take note of the fact that the community is not always homogenous. It remains a challenge for schools to bridge these differences and nurture the cultural differences among communities, by making teachers who are key actors, caste-sensitive which in itself is an enriching experience (Vasavi, 1994).

New Directions in Research

There is a need to develop alternative frameworks to understand the functioning of schools not as an independent institution but as a part of a larger community from which it draws its students. These frameworks must be based on extensive, in-depth studies with an interdisciplinary approach. In this context, it may be required to understand that categories that define school quality differ significantly depending on the location of the schools. Unlike schools in developed countries, most schools in rural India like many developing countries are located at the lower end of the school quality continuum. Thus, it is essential that one does not borrow categories that describe school quality in developed countries, instead evolve categories of school quality that are operational in rural Indian contexts.

Research studies placed against such a framework will give us a

better understanding of school quality and will lend themselves to specific policy directions. Large-scale survey of quality of education can be taken up by observations of schools, based on the categories that emerge out of such in-depth studies. There is a need to focus research studies on priority areas like primary education, specially for a country like India, where teacher behaviour in the classroom most often is studied at the secondary levels and tools used in such studies are adopted from different socio-cultural contexts. Studies at the primary school level suffer from lack of appropriate tools and categorisation of educational transactions.¹

Another major finding of this study is the categorisation of educational transaction in rural schools. The present study has used categories like domesticating/herding; grinding of basics; information transmission and functional instruction as possible categories that can describe educational transaction in a typical rural context. (There is a need for research and development work in the area of teacher training, both in-service as well as pre-service for specific categories of teachers who are expected to work in heterogeneous, multiple cultural communities.)

Notes

1. The community characteristics are determined by the village structure and organisation in terms of caste composition, occupation, income and landholding categories and the educational level of the heads of households.
2. The variation of educational facilities in villages of different community characteristics is not significant except in the case of pupil-teacher ratio for the upper primary schools. As discussed earlier, pupil-teacher ratio does not have any significance in rural schools where multi-grade teaching prevails.
3. The wide gap that exists in the quality of education between the rural and urban India is well established by many studies. For example see Devi 1987; Prasad 1991. This difference is brought out in the school quality between the government schools in rural and urban areas, with urban government schools having better in-

infrastructural facilities. The choice in the medium of instruction and the availability of management—aided and private school in urban adds to this differentiation. This choice is denied to most of the children in rural areas. Hence, the rural population is at a great disadvantage in comparison to their urban counterparts. This is identified as the first level of differentiation.

4. Educational facilities here, refer to the lack of infrastructural facilities, teaching aids, libraries and lab equipments, teachers, etc., that are reflected in the data generated by the government through its educational surveys. The latest educational survey available in published form is the Sixth All India Educational Survey (1998).
5. Operation Blackboard provides grants to states to construct an additional classroom and appoint an additional teacher in single-teacher schools, requiring that half the teachers appointed are women. It also provides grants for the distribution of standardised package of teaching aids.
6. The difference is very often one teacher managing four standards or two teachers managing four standards. Very little variation can be observed in the school quality between these two situations.
7. Activity-based and child-centered learning are yet to find their way into rural schools. Notwithstanding, the official documents have appropriated the above mentioned terminologies. It is claimed that the teacher training as a package of the District Primary Education Programme is directed to equip teachers with required skills to adopt the new methods. It remains to be seen how this translates into rural schools.
8. To name a few, the Ekalavya in Madhya Pradesh, the MV Foundations in Andhra Pradesh and the Lok Jumbish in Rajasthan have gained considerable visibility in this regard. These experiments, though small and isolated, have tried to make education accessible to all children through community participation. Their efforts bring to light often unrecognised crucial factors that contribute to the enrollment of children in school.
9. The arguments advanced by the educational department personnel about the negative impact of the appointment of a local teacher can at best be treated as an exception rather than a rule. This is not to say that local teachers do not engage in local politics and oversee their farming activities during school hours, but to

draw generalisations based on limited observations may do more harm than good to the cause of primary education.

10. The only exception being that 45 per cent of the upper primary schools have drinking water facility.
11. The decade 1990s has seen the reversal of the earlier trend of the gradual increase in the share of education expenditure in GNP, despite large inflow of foreign funds. This share has come down from 4 per cent in 1991-92 to 3.2 per cent in 1995-96, more or less the same figures as in the early eighties. (PROBE, 1999; Tilak, 1995).
12. Recent studies indicate that salaries account for 97 per cent of the education department expenditures in lower primary schools and libraries, consumables, equipments and furniture account for only 0.18 per cent.
13. The data on educational inputs reveal that except for one room of reasonably good construction the primary school, lack facilities of any kind.
14. The Chi-square value of the pupil-teacher ratio index was significant among the village types only in the case of upper primary schools. This measure loses its significance in rural schools characterised by multi-grade teaching.
15. Educational facilities include the infrastructural facilities; health and sanitation facilities; library facilities; teaching-learning materials; sports equipment; per-pupil expenditure; organisation of co-curricular activities; teacher-standard ratio; timekeeping provision; and supervision and inspection.
16. Almost two-third of the primary schools are single teacher schools even in the nineties (PROBE, 1999).
17. Seven out of every ten upper primary schools have lesser number of teachers than the number of standards. In other words, only three out of ten schools have teachers for every standard.
18. Ironically, the pupil-teacher ratio is far better in comparison to most urban private schools.
19. Ironically, this argument that training teachers to manage multi-grades will result in the reduction of recruitment of teachers amounts to prioritising teachers' appointments over students learning.
20. The criterion reference tests measured the learning competencies based on the Minimum Levels of Learning in Mathematics and

Environmental Science.

21. Silence is defined by teachers as 'tolerable noise'.
22. It is often argued that the problem of primary education is the lack of infrastructural facilities or the poor socio-economic background of students.
23. M.N. Srinivas (1987:180), on his experience in Rampura Village writes "...I have heard a powerful leader dismissing the idea of constructing a new school building on the ground that it would only teach the poor to be arrogant..."
24. Educational quality process consists of teachers' orientation; students' attendance; average length of the school day and educational transactions.
25. The educational facilities in rural primary schools are minimal. The variation is too small to be significant, or to be more explicit there is hardly any variation.

Appendices

Appendix 1

Procedure Adopted for Developing Indices for School Quality

Pupil-Teacher Ratio Index

The ratio obtained for this indicator was through dividing total number of students studying in the school by the total number of teachers working in the school. This can be expressed as:

$$\frac{\text{Total number of students enrolled in the school}}{\text{Total number of teachers working in the school}}$$

Standard-Teacher Ratio Index

The ratio obtained for this indicator was by dividing the total number of standards taught in the school by the total number of teachers working in the school. This can be expressed as :

$$\frac{\text{Total number of standards taught in the school}}{\text{Total number of teachers working in the school}}$$

Infrastructural Facilities Index

This is a composite index of two variables. Each of these variables was rated on a three-point scale.

- (a) The built-in area of the school per student: The ratio obtained for

this variable was through dividing the total built-in area of the school to the total number of students studying in the school. This can be expressed as:

$$\frac{\text{Total built-in area of the school (expressed in squarefeet)}}{\text{Total number of students enrolled in the school}}$$

(b) Area of playground per student: The ratio obtained for this indicator was through dividing the total area of open space available for playing with the total strength of the school. It can be expressed as:

$$\frac{\text{Total area of the playground (expressed in square feet)}}{\text{Total strength of the school}}$$

For deriving the composite index, the ratings of each variable was summed up to obtain a composite score.

Health and Sanitation Index

In the case of this indicator, there were three different variables used for developing the composite index. The responses were rated on a two-point scale as :

Non-availability of the facility = 1

Availability of the facility = 2

The variables were:

1. Availability of electricity in the school.
2. Availability of drinking water facility.
3. Availability of urinals and toilet facilities in the school.

For deriving the composite index, the ratings of each variable were summed up to obtain composite score.

Teaching Aids Index

This is a composite index of eight variables. The responses were rated on a two-point scale as :

Non-availability of the teaching aid = 1

Availability of the teaching aid = 2

The variables were :

1. Syllabus
2. Textbooks
3. Teacher's handbook

4. Map of the district
5. Map of the state
6. Map of the country/world
7. Globe
8. Science kit

For deriving the composite index, the ratings of each variable were summed up to obtain the composite score.

Provision for Keeping Time Index

This variable had two components namely:

- (a) The availability of a school bell and
- (b) Availability of a working clock/time piece.

The responses to the above mentioned items were rated on a two-point scale as :

Non-availability of the equipment = 1

Availability of the equipment = 2

The ratings of each variable were summed up to obtain the composite score.

Human Resource Facilities Index

This is a composite index of two variables as given below:

- (a) The average length of service of the teachers
- (b) The percentage of teachers sent for in-service training in three consecutive years.

The headmaster of each of the sample school was asked to enlist the names of the total number of teachers, their educational and professional qualifications, total years of service of individual teachers. Along with this the headmaster had to give the total number of teachers who attended in-service training in the past three consecutive years. The average length of service of the teachers in a school was obtained by summing the total length of service of individual teachers and dividing it by the total number of teachers. The percentage of teachers sent for in-service training in the past three consecutive years was obtained by the ratio of the number of teachers sent for in-service training in three consecutive years divided by the total number of teachers working in the school. Depending on the frequency distribution, and taking the quartile points into consideration, the responses to each of the above variables was rated on a three-point scale. To obtain the composite index the ratings of each component were summed up to obtain the composite measure.

Library Facilities Index

A composite index was used to indicate the library facility of the school. This consisted of two variables, which were rated on a three-point scale. The two variables were:

- The ratio of the number of books to the number of students.
- The ratio of the number of books to the number of issues per year. A three-point scale was developed for each of the above variables based on the frequency distribution and quartile points. The responses to each of the above variables were rated on this scale. For deriving the composite index the ratings of each variable were summed up to obtain the composite measure.

Per Pupil Expenditure

The value of the index of this variable is obtained by the ratio of the expenditure per pupil (excluding the salaries of the school staff). This can be expressed as:

$$\frac{\text{Total expenditure of the school}}{\text{Total strength of the school}}$$

Co-curricular Activities Index

Co-curricular activities index consists of three variables. They are:

- Frequency of conducting of co-curricular activities in the school annually.
- Highest level of participation of the school during three consecutive years in sports related activities.
- Highest level of participation of the school during three consecutive years in literary/cultural activities.

The headmaster of the schools had to respond on a three-point scale with reference to all the three items. Their responses were rated as:

For the first item :

Absence of co-curricular activities as = 1.

Conducting of CCA less than or equal to twice a year as = 2.

Conducting of CCA more than twice a year as = 3.

For the second and third item:

Participation at school/inter-school level as = 1.

Participation at hobli/taluk level as = 2.

Participation at district/state level as = 3.

Depending on the frequency distribution and quartile points, the re-

sponses to each of the above items were rated on a three-point scale. For deriving the composite index the ratings of each of the items were summed up to obtain a composite measure.

Games/Sports Equipment Index:

This indicator had ten variables. They were leyzimes, dumb-bells loops, football, volleyball, tennicoit, shot-put, high-jump poles, long-jump pit, and kho-kho. The headmasters of schools were asked to respond on a three-point scale for each of these variables. Their responses were rated as:

Absence of the equipment as = 1.

Presence of the equipment but not used as = 2.

Presence of the equipment and used as = 3.

A three-point scale was developed for each of the above items based on the frequency distribution and quartile points. The responses to each of the above items were rated on this scale. For deriving the composite index, the ratings of each of the items were summed up to obtain the composite measure.

Inspection and Supervision Index

The inspection and supervision index consists of two items:

1. Supervision/inspection exclusively by the Education Department in three consecutive years.
2. Visits by other agencies (Education Department excluded) like Health Department, Mandal Panchayats, Rotary Clubs, etc.

The headmasters were asked to indicate the frequencies of the visits of each of the above items individually. The response, thus, obtained was rated on three-point scale depending on the frequency distribution and quartile points. For deriving the composite index of supervision and inspection the ratings of each of the items were summed up.

Appendix 2

A test was administered to identify students who had mastered each of the competencies prescribed. The items per competency ranged from two to five. Each student was awarded a score of one on each item under a competency if the response was correct. Right responses of all students tested in a school from class IV were pooled and then divided by the total number of expected right responses if all the items were to be answered correctly. Such scores expressed in percentage for each competency for the group of students were averaged on all competencies to get the aggregate performance of all students in a given school. This scoring technique is illustrated with an example below:

The test contained three items under competency 2.3.1. This was administered to three students in school 'X'. The first student answered all the items correctly. The second gave only two right answers and the third gave only one correct response. Thus, there were six right responses. If all the students had mastered this competency, there would have been nine right responses. The actual responses formed about 66 per cent. This represented the school score on the above competencies. Similarly, the school score on all the competencies were obtained and average of these scores represented the achievement score of the school. The project followed the procedures of constructing the criterion reference test involving experts in the field, thus, ensuring the validity of the tool. The test contained 214 items on 41 competencies under Mathematics. The number of items on each competency varied from two to five. The test of Environmental Science consisted of 118 items covering 33 competencies with a similar range of items.

Appendix 3

List of Items of School Quality

1. Details on the strength and attendance of teachers and students.
 - (a) The observed pupil-teacher ratio.
2. Details about the physical resources, community resources, library and laboratory.
 - (a) The area of the school building.
 - (b) The nature of the school building.
 - (c) The extent of use of the school building.
 - (d) The proportion of strength of the school to the total number of classrooms.
 - (e) The area of the playground in relation to the strength of the school.
 - (f) The extent of use of the playground.
 - (g) Frequency of use of community resources by the school.
 - (h) The nature and extent of use of these community resources.
 - (i) The total number of books in the library.
 - (j) The type of books in the library.
 - (k) The schedule of purchase of books in the library.
 - (l) The schedule of issue of books in the library.
 - (m) The presence of a separate room for laboratory purpose.
 - (n) The list of equipment in the laboratory.
 - (o) Frequency of use of the laboratory.
 - (p) Pupil participation in the conduction of experiments.

3. Teaching-Aids.
 - (a) The list of teaching aids available.
 - (b) The frequency of use of teaching aids.
 - (c) Mode of use of the teaching aids.
4. In-Service Training.
 - (a) Schedule/frequency of in-service training attended by teachers.
 - (b) Average duration of in-service training.
5. School Organisation/Administration.
 - (a) Membership of a school complex.
 - (b) Leadership style of the headmistress/master.
 - (c) Punctuality of the teachers.
 - (d) Punctuality of the students.
 - (e) Average length of the school day.
 - (f) The operational timings of the school.
 - (g) Average time spent on organised academic activity.
 - (h) Average time spent on organised co-curricular activities.
 - (i) The pattern of programme of work for the entire year.
 - (j) The pattern of programme of work of the school for each day.
6. Co-curricular Activities.
 - (a) The schedule of sports activities conducted in the school.
 - (b) The mode of conduction of sports activities.
 - (c) The nature of encouragement given for sports activities.
 - (d) The schedule for literary activities conducted in the school.
 - (e) The mode of conduction of literary activities.
 - (f) The nature of encouragement given to the literary activities.
7. Supervision and Inspection.
 - (a) Frequency of supervision by the headmistress/master of the school work.
 - (b) The nature of supervision of the headmistress/master.
 - (c) Frequency of supervision by the staff of the Education Department.
 - (d) The nature of supervision by the staff of the Education Department.
8. Interaction of Community and School.
 - (a) Frequency of the meeting of the school betterment committee.
 - (b) The mode of functioning of the school betterment committee.
 - (c) The participation of the community in school programme.

- (d) The participation of the school in community activities.
 - 9. Evaluation Pattern.
 - (a) Frequency of evaluation done for the school as a whole.
 - (b) The mode of evaluation done for the school as a whole.
 - 10. Special Provision of the School.
 - (a) Uniqueness of the school.
 - (b) The hidden curriculum of individual schools.
 - 11. Classroom Information.
 - (a) Pupil-teacher ratio.
 - (b) Programme of work for the entire year.
 - (c) Programme of work for the school day.
 - (d) Time spent on organised activity.
 - (e) The nature of teaching-learning process.
 - (f) The evaluation pattern adopted in the class.
 - (g) The assignment pattern of the class.
 - 12. Classroom Rewards and Punishments.
 - (a) The frequency of rewards given to the students.
 - (b) The kinds of rewards given to the students.
 - (c) The frequency of punishments given to the students.
 - (d) The kinds of punishment given to the students.
- Space is provided for the addition of constructs/items overlooked by the researcher as well as for suggestions.

Appendix 4

Classificatory Categories of School Quality Indicators

Infrastructural Facilities

The infrastructural facilities comprise of:

- i. Type of the building;
- ii. Built-in area per pupil; and
- iii. Area of playground per pupil.

Type of building: The type of building has been classified into *pucca*, partly *pucca* and *kuchcha*. Based on the built-in area per pupil the schools have been grouped in the following manner given below:

- 1. Less than or equal to 5.45 Sq. ft.
- 2. 5.46 to 12.21 Sq. ft.
- 3. Greater than or equal to 12.22 Sq. ft.

The area of playground per pupil has been categorised into 3 groups.

The three groups formed are:

1. Absence of playground.
2. Up to 4,356 Sq. ft.
3. Greater than 4,356 Sq. ft.

Health and Sanitation Facilities

The index of health and sanitation facilities consists of the following:

1. Drinking water facility.
2. Lavatory facility.
3. Separate lavatory facility for girls.
4. Electricity facility.

Schools having none of the facilities have been classified as poor, schools having any of the two facilities have been classified as average and the schools having more than two facilities have been classified as good.

Human Resource Facilities

The human resource facilities available at the school level comprise the following, namely:

1. Percentage of teacher sent for in-service training for three consecutive years.
2. The average service of the teachers.
3. The educational qualification of the teachers.
4. The professional qualification of the teachers.

Based on each of the above components, the schools have been classified into the following categories :

In-service Training:

1. No teacher has been sent for in-service training.
2. Up to 33.3 per cent of the teachers have been sent for in-service training.
3. More than 33.3 per cent of the teachers have been sent for in-service training.

Service of teachers:

1. Average service less than or equal to five years.
2. Average service between 5 and eighteen years.
3. Average service above 18.5 years.

Educational Qualification of Teachers:

1. Educational qualification of all the teachers below graduation.

2. Educational qualification of at least one teacher equivalent to graduation.

Professional Qualification of Teachers:

1. Professional qualification of all the teachers equivalent to Teacher's Certificate Higher (TCH).
2. Professional qualification of at least one teacher equivalent to B.Ed. or above.

Sports Equipments/Provisions

The index of sports equipments/provisions consist of the following items, namely: dumb-bells, leyzims, loops, football, volleyball, tennicoit, shot-put, high-jump, long-jump and kho-kho.

Each of the above items has been individually marked on a three-point scale and the respective values given:

1. Non-availability of the item has been given a score of one.
2. Availability of the item, but not put to use has been given a score of two.
3. Availability of the items and using it has been given a score of three.

The scores obtained by the schools on each of these items have been summed up to arrive at the index.

The categories of the schools have been derived using quartile points of the distribution of the scores. Schools falling above 75 per cent of the distribution have been classified as good schools with respect to the facilities. Schools falling below 25 per cent of the distribution as poor schools and the remaining schools in between these two points as average schools.

Availability of Teaching Aids

The index for the teaching aids comprises of the following: syllabus, textbook, handbook, district map, state map, country map, globe and science kit.

Accordingly, the schools have been classified as:

1. Availability of less than any three items as poor.
2. Availability of any four to six items as average.
3. Availability of more than six items as good.

Library Facilities

The index/score for the library facilities has been obtained after giving individual scores to the following components :

1. Books per pupil.

2. Frequency of issue of books.

The value obtained by the schools for each of these components have been arranged as a frequency table and the schools have been rated on a three-point scale using the quartile points as the cut-off points. A score of one has been given to the school that is below the first quartile and a score of two for those between the second and third quartile. The schools in the fourth quartile have been given a score of three.

The scores, thus, obtained by a school on both these components have been summed-up and reclassified as follows:

1. Schools with a score of two as poor.
2. Schools with a score between three and four as average.
3. Schools with a score of greater than four as good.

Timekeeping Provision

The index of the timekeeping provision consists of the following variables that is clock (in working condition) and a bell.

The schools have been classified into two categories as follows:

1. Schools having any one of the items as poor.
2. Schools having both the items as good.

Per Pupil Expenditure

Based on the value of the per pupil expenditure the schools have been categorised into the following groups, namely:

1. Per pupil expenditure below 85 paise as poor.
2. Per pupil expenditure ranging from 85 paise to 10 rupees as average.
3. Per pupil expenditure above 10 rupees as good.

Supervision and Inspection

The index for supervision and inspection comprises the following two components, namely:

1. Supervision/Inspection exclusively by the Education Department in three consecutive years.
2. Visits by other agencies.

The values for each of these components have been arranged as a frequency table. The schools have been rated on a 3 point scale using the quartile points as the cut-off points. A score of 1 has been given to the school that is in the first quartile and a score of 2 for those between the second and third quartile. A score of 3 has been given for the schools in the fourth quartile. The scores, thus, obtained by a school on both these

components have been summed up and reclassified as follows:

1. Schools with an index score of two as poor.
2. Schools with an index score of three as average.
3. Schools with an index score of above three as good.

Organisation of Co-curricular Activities

Adopting a similar procedure as in the case of school inspection, the index for co-curricular activities has been derived with the help of three items: the frequency and level of participation in sports activities of students and the level of participation of the school at block and district levels in literary/cultural activities for the past three consecutive years. The schools are categorised as follows using the index:

1. Schools with an index value of three as poor.
2. Schools with an index value of greater than three but less than six as average.
3. Schools with an index value of six and above as good.

Pupil-Teacher Ratio

Based on the pupil-teacher ratio obtained for individual schools, the schools are categorised into three groups using the frequency distribution and quartile points. They are:

1. Pupil-teacher ratio greater than or equal to 64:1 as poor.
2. Pupil-teacher ratio between 63:1 and 36:1 as average.
3. Pupil-teacher ratio less than 35:1 as good.

Standard-Teacher Ratio

The standard-teacher ratio obtained for individual schools are categorised into three groups, namely:

1. Single teacher handling all the classes as poor.
2. Multi-grade teaching with more than one teacher as average.
3. One or more teacher per standard as good.

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B.K. Anitha is Research Fellow at the Gender Studies Unit, National Institute of Advanced Studies, Bangalore. Her areas of interest include education, gender issues and decentralized governance. Currently, she is engaged in a research project in Kerala on 'Classroom Processes: Comparative Case Studies' sponsored by the NCERT.

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